SOUTHERN AGRICULTURIST.

APRIL, 1838.

PART I.

EDITORIAL AND ORIGINAL.

Proceedings of the Monticello Planters Society of Fairfield District, South-Carolina.

Until the regular hour of meeting for the transaction of the usual business, the members were entertained in examining the several stallions, (Bill Austin, Roanoke and Virginian) and three jacks, all of which were presented for the patronage of the Society.

At 12 o'clock, the Society then convened, and proceed-

ed as usual in their minor matters.

On motion of Wm. J. Alston, Esq., Revolved, That the Reports to be offered at this meeting, be merely read and forwarded to the Southern Agriculturist for publication; and that no discussion or farther action be taken on said reports, till the next meeting of the Society (in October.)

The Committee on Manures reported.—See Report. The Committee on Cotton reported .- See Report. The Committee on Corn reported .- See Report. on Wheat.-Report unprepared. Do. do. Do. do. on Oats. do. do. on Rye. do. do. The Committee on Barley.—See Report.* The Committee on Peas.—Report unprepared. on Potatoes. - do. do.

The Committee on Horses.—See Report. The Committee on Cattle.—Report unprepared.

Do. on Hogs.— do. do.
Do. on Sheep.—See Report.*

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The Committee on Fencing and Ditching.—Report unprepared.

The Committee on Silk .- Report unprepared.

Do. on Grasses.— do. do.
Do. on Farming Utensils, do.
Do. on Foreign Seeds.— do.
Do. on Grapes.— do.

The Committee appointed last October to petition the State Legislature for Incorporation, and other purposes, submitted a Report.—See Report.*

It was now resolved by the Society, that so far as this latter Report is concerned, the motion of Mr. Alston

should not apply.

On motion of Col. B. F. Davis, it was Resolved, That the members of this Society be requested to patronize the Southern Agriculturist, whose Editor has at all times evinced the greatest zeal in diffusing agricultural information throughout the State. Adopted.

Meeting adjourned.

DAVID ELKINS, Secretary.

March 7th, 1838.

Report of the Committee on Manures.

The Committee on Manures beg leave to report, That this is one of the most beneficial and important branches of practical husbandry; and though every member of this Society must be fully conscious of the fact, yet your committee cannot but deplore the almost total inattention of the planters of this neighborhood to this highly necessary subject. Our lands were once rich and highly productive, and although very much injured by the old and yet common methods of agriculture, your committee cannot see why, with an enterprising population, and with the attention to this subject which is paid elsewhere, we cannot make our lands more fertile than they ever were. Your committee are satisfied that it was by scourging cultivation, too much hard grazing, and utter neglect of all modes of improvement, that our lands have been made barren; which course of management, though

^{*} These Reports will be published in our next number.

perhaps the most lucrative, when our lands were new and cheap, is certainly, in their present exhausted state, a most unprofitable and ruinous business to the planter. We would most earnestly recommend, that all the members of this Society devote more of their time and labor, to the improvement of their lands, than they have hitherto. The advantages of more attention to this subject, must be As the chief objection of the planters, in this section, to the manuring and improvement of their lands, is "want of time," your committee believe that the best way to overcome this great difficulty, will be to abandon the old-fashioned notion of planting a great deal of poor land, and thus attempting to make up by quantity, the deficiency in quality of our lands. It surely would be more profitable to manure one acre, and thereon make thirty bushels of corn, than to plant two acres, without manure, and make but thirty bushels on the two acres; as the manured acre would require only half the work of the two not manured, and of course leave more time to make more manure. If this course were pursued systematically, an annual progressive increase of the quantity of manure made, giving an annual increase in fertility of our lands, would also annually add, to the time which we might devote to the accumulation of manures—which should be done by keeping our stables, stable-yards, cowpens and hog-pens, well littered with leaves or other vegetable matter.

The committee believe that the most profitable and economical mode of using animal manures, and cotton-seed, would be, if properly managed, their application upon the corn crop: the best mode of doing which, we are of opinion, the committee on corn have embodied in their report. The committee conceive, that though cotton-seed and animal manures, are absolutely necessary to the improvement of our lands, yet no great degree of fertility can be acquired without the aid of other kinds of

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The cultivation of grasses is regarded, by all good farmers in other countries, as highly profitable; as well for the purpose of being ploughed in while green to enrich the soil, as of thereby enabling them to raise more stock for the necessities of the farm, or for market. It is therefore hoped the committee on grasses will make fair experiments of the different varieties of grasses, and ascertain

the kinds most suitable to our soil and climate, and also, the best mode of producing them. We would suggest, amongst other modes of trying clover, that it be planted with peas, as the shade of the pea-vines would protect the clover, while young, much better than wheat or oats, from the burning sun of our summers. If the clover should not succeed, the labor will be profitably expended, for the pea-vines will, if ploughed in while green, enrich As an auxiliary in ameliorating the soil, peavines may be a very profitable crop, if, as already observed, they are ploughed in while in a green state; which should be done about the 1st of October-to escape frost, and also the burning heat of summer. The summer's heat would cause too rapid a decomposition of the green vegetable matter, and the exposure of the naked surface of the soil to the action of a hot sun, would materially injure it.

The committee have not yet tested the utility of calcareous manures upon our soil, but believe their application would be beneficial; and, if applied moderately, profitable to the planter: perhaps a half bushel or one bushel per acre would be sufficient. A much larger quantity would, probably, be an unprofitable investment, as the cost of freight would make it an expensive manure. Plaster of Paris has been used as a manure for cotton in some of the lower districts of our State, upon a sandy soil; and its application in this way, it is believed, has been attended with considerable profit. Two intelligent and successful planters in our lower country, informed the chairman of your committee, that they had used it for several years in manuring their cotton in the drill, at the rate of a half bushel per acre, and were confident that even without the aid of other manures, its application in

this way was profitable.

It is probable that its effects would, in some degree, be different upon our clay soil—possibly more beneficial; at all events it deserves a trial. To test its utility thoroughly, it should be used upon every variety of crops, and in different quantities upon each; and also in combination with other manures.

All which is respectfully submitted.

W. K. DAVIS, Chairman,

March 7th, 1838.

Report of the Committee on Cotton.

Mr. President,—Not having had time to make experiments, as the late crop was too far advanced, before the resolution requiring it at our hands was adopted; and the committee to experiment and report on cotton, being large, and residing somewhat apart, and therefore not having had an opportunity of interchanging views on their important duties, we have thought proper, under the sanction of the committee, to report at present only on the general principles of the cotton business. On an occasion like this, where there is so much other business to be done, and reports to be made, a lengthy or detailed report, on the various topics of even a general report, cannot be wished and of course will not be expected.

The cotton plant is a native of warm countries, and was introduced into the British colonies of North America, from the West Indies; and probably, also, from the East Indies. It was found from Virginia to Georgia, at the close of the revolutionary war-but was not grown for any but domestic purposes for some years after this event. Its introduction was opposed by the ignorant and prejudiced of that day; as new and unusual staples are at the present. It was then thought to be the extreme of folly to suppose, that any staple could succeed the Indigo and Tobacco—as it is now, when it is proposed to introduce the vine and the mulberry as partial successors of the cotton plant. What then so enlightened the minds of men, as to break down their prejudices. They soon found that its cultivation was profitable, selling from 30 to 45 cents per lb. It was found to succeed well, and the timely invention by Whitney of the Saw-gin, removed the apparently insurmountable difficulty of preparing it for market; and opened the way for its general cultiva-The result has been prodigious—it is now the staple commodity in whole, or in part, of nine States; by far the most important article in the commerce of the United States; and probably, when manufactured, exceeds any other article in the commerce of the world.

We proceed now to the discussions of the points which it may be useful to investigate, as throwing light on the subject, in reference to the interests of the cotton planter, and the cotton-growing States. The first thing that pre-

sents itself is, to examine the prospects before us, as to production and consumption. It has been the opinion of many, that consumption could not keep pace with pro-This has been the common sentiment for many years-held and believed as firmly twenty years ago, as at the present time. Yet it has not come to pass; it is confidently expected every year. The many and extensive countries in which it is already grown, the great force employed in its cultivation, the rapidity with which it extends itself over the fertile hills and valleys of the South-West, in the East and West Indies, Egypt, South America, and especially Brazil, seems to demonstrate and proclaim that there is or will shortly be a vast distance between the demand and supply, production and con-But is it so, or will it be so? We think not. The distance of the East-Indies will be a barrier against the introduction of cotton into Europe, or the U. States, unless at high prices from that country. Egypt is too limited in territory; and under the most favorable circumstances, must be circumscribed in production. master spirit who has roused it into action, Mahommed Ali, partly by force, and partly by a prudent policy, must go with time, and Egypt may not find another such to control her destiny—with him the cultivation of cotton, with a view to the European market, partly commenced, and with him it is most likely it will partly decline. the West-Indies, cotton will never be cultivated to any great extent; at least it can not be progressive. The apprentice system (as it is called) will retard, if not totally overthrow it. The culture of other articles, sugar, coffee, &c., are more advantageous, unless when prices are ex-We have got through with these, but what shall we say of Brazil, that extensive and fertile country, situated in a favorable climate, with slave labor. The Brazilian territory is but thinly inhabited, and being favorably situated for the cultivation of many other plants, which are equally profitable, it is probable that cotton will at no time engage more of their attention, in proportion to population, than at this time. Brazil has been urged on by her advantageous commerce with Great Britain. Our high tariffs have invited her to competition, and the flattering markets of '35 and '36 have drawn them into the cultivation of cotton, under anticipations that must fail. But Brazil cannot compete with the United States for

other reasons. Does she use slave labor? The slave can commute his personal service for money, which makes the system inefficient. Is the climate more tropical? It is less healthy, less adapted to cotton, and more favorable to other plants—the people are indolent, and the government despotic. And, therefore, we are confident, Brazil can never compete with the efficient labor, the improving experience, and the fertile soil of the South-West in North America; much less to advance the production to any extent likely to over-supply the great market of the world. The same remarks may be applied to all South-America, only that in the republics, free labor must be applied to production, and it cannot be supposed that the descendant of the proud and lazy Spaniard, will submit to the incessant drudgery of working in cotton fields.

But, admitting the correctness of the above statements, it is the opinion of many that the rapid progression of its production in the United States, will outrun by far the

demand for manufacture and consumption.

We do not think so. It is true that the great flood-tide of emigration which has for the last twenty years rolled on South and West, till it has at length reached its utmost barrier, with the skill and industry of the old States, operating on a virgin soil, urged too by a kind of necessity to the utmost exertion, have produced in a tenfold quantity, to what could have been anticipated. The increase has been tremendous, year after year. But has the market been glutted? Has the consumption not been sufficient for the supply? If so, when? Was it in '35, or '36, or is it now? When those who tell us with assured assurance, that the market will be glutted, it most commonly turns out that there is the greatest deficiency. Well, if the market has not yet been glutted, will it ever be? Will not the multitudes who go to Texas, in addition to all those already employed on the fertile fields of the South-West, soon surcharge the world with cotton? We Where do the people come from who go to think not. Texas? Do they come North of Mason's and Dixon's line?—they carry no slaves with them; and will not be apt even to plant cotton. Do they go from slave States, North of 35 degrees?—they will deduct that much labor from the hemp, the grain, and the stock business, and soon the same amount of labor will be diverted from cotton to supply the place—all these pursuits being much

more profitable than cotton, unless where soil and climate insure great crops. The same force, transferred from a less fertile, and unadapted soil in comparison, will undoubtedly make more; but with all this, it is clear that the supply of cotton cannot "go ahead" of the demand, and in proportion to the advance for the last twenty years, must retrogade, not indeed from what it is, but from what it should be, when looking to the great increase which is annually to be added with unerring certainty to its con-The slave population cultivate the cotton fields -you have no way to add to their numbers but by the slow process of natural increase. The African trade has been cut off since 1808. You may transfer them to more fertile regions, and it will still be the same owner, and the same negroes, laboring to produce all they can. And there cannot and will not be much more cotton made hereafter than what we already make. The advantage of climate and soil, more adapted and more fertile, with the natural increase of slave labor, will be all or nearly all the addition that will be made in the United States to the production of cotton.

We have now to look on the other side, and canvass the prospects for demand and consumption. And but for the grand prospects before us, the committee might stop with what they have already asserted, that the sup-

ply has never yet overtaken the demand.

Mankind are justly to be compared, on this sunject, to the ignorant boy, who had all day watched the progress of the wheels of a carriage, in which he was being conveyed: he thought, as the hinder wheel was the largest, that it would very soon overtake the fore wheel; he looked on all day, expected it more certainly as the wheels traversed the level and smooth highway, but at night he gave up his confidence, and rather inclined to the opinion that the little wheel turned the fastest.

What then are the prospects for the consumption of cotton? We must premise, that the machinery in England, in France, and in other parts of Europe, as well as in the United States, are amply prepared to manufacture the raw material. The companies who own them, have ample means to extend their operations. They have water power, steam power, and money power. There are or can be sufficient shipping to carry these goods to all the sons of Adam.

Cotton clothing, from its superior excellencies, is preferable, and preferred for many uses, to the clothing made from many other staples. It is more pleasant than linen, more soft than hemp, nearly as warm as wool, and indeed so very comfortable, as to recommend itself whenever and wherever tried. It will compete with hemp for strength; it will scarcely rot when exposed to weather; it may be said to comfort and ornament the human race. As fine and as splendid as silk, it has found its way into the palace, to ornament the heads of the rich, and is at the same time equally ready to ornament and comfort the poor. The Austrian and German prefer it to their flax; the Russian to his hemp; and in every civilized country, where commerce has gone, cotton goods are becoming the common article of clothing. is to clothe the vast population of Europe—and in Europe there is no cotton grown. The Eastern world depend on cotton in part for their clothing-we have seen also in part what resources they have to supply themselves. But let us look to the facts which present themselves to us in the present and future population of our own country. Out of the 26 States and 3 or 4 Territories, there are only 10, and should Texas be annexed to the Union, only 11, in which cotton is cultivated for market. Of these, Missouri, North-Carolina, and Tennessee, are border States, and are only half adapted to cotton—it is so in part of South-Carolina and Georgia. Now turn to those States which cannot grow cotton-see their dense population and crowded multitudes! Look at the rapid increase in population in the new North-Western States, Kentucky, Ohio, Indiana, Michigan, Illinois—taking all together, man, woman and child, to be clad in cotton to-day, 10 millions; to double every 14 or 20 years—in 1860, 20 millions; in 1880, 40 millions; add to this, 4 millions in the South and South-West-to be shortly, and in less than 50 years, 76 millions, all cotton consumers. Is it then at all likely the demand for cotton can be oversupplied? Can it be now? Will it be then? With a productive force comparatively stationary, lands wearing out, more provisions to be raised on cotton lands to supply those who own and those who work them-to what result then do these views lead us? That we have a cotton market, that never can be over supplied; that the consumption will be, or rather could be, greater than the VOL. XI.-NO. 4.

production; that on data presented by the present situation of the world, we have no competitors likely to be in our way, as much or more than they have been; that we have, to a considerable extent, the market of Europe in our hands, and a monopoly of that of the United States; and probably, by the time the republic doubles its present age, we will scarcely be able to supply our home market.

Now we have shewn we have a market for all we can make, what then are the prospects before us for a good price—and what course ought we to pursue? As the committee have consumed some time already, they will be short in this part of the report. It is clear that there are two views to be taken. If the cotton business is worth contending for, if it has been advantageous to the country, and will still be so, it is an object to retain it—to drive others from the business—to continue the cultivation to the utmost limit—and by this course, by a full supply, keep the market moderately low, and divert the people of other countries from its culture. Should other staples be more profitable for a few years, countries which grow these other staples, will necessarily turn their attention that way, and leave off the cotton business—and then we should be able to realize higher prices, with a prospect of a permanent market. But should it be thought more advantageous to change the present policy of the country, and cultivate less cotton, applying more force to other objects, such as provisions and stock; to new staples, such as the vine and the silk; it is almost certain prices would shortly become good, and the planter more inde-This policy, though at the risk of inviting others in foreign countries to the business, is that to which the committee are inclined.

Let us examine the subject briefly. The Southern States have grown cotton for a long time. They are among the first settled States in the Union. They had every advantage of soil and climate—slave labor, for a long time. About 40 years they have had cotton for their great staple commodity, and have been left far behind by their neighbors in less favored regions, in commerce, in architecture, private and public, in internal improvements, and in fact in all the substantial ingredients of wealth and comfort. Their market closed by embargoes, by war, by high tariffs, at the mercy of mankind for all they want, subsidized by the North, by the West, by the

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East, selling low and paying high. Have we been favored occasionally with some prosperous and sunny days, with good prices, the world has been ready for us, and demanded for such articles as we had to buy, just in proportion; so that we have always been the victimsnecessarily so, because we had nothing and made nothing. We made cotton, and got money for it—but it had all to go for things we do not make. Look at the long list of necessaries we have to buy-pork, flour, horses and mules, articles that grow as well here as any where. Add to these, merchandize of all sorts—clothing, shoes, leather, harness, hats, carriages, &c. &c., the materials for which could all have been supplied in our own country; to be bought at the price of the manufacturer. Pay for all, and what have we got? Nothing but the same land and the same negroes. This has truly been our folly. It is this policy that has made us so poor, so far behind our neighbors, who have been only profited by our labor. Moreover, take into the estimate the low prices, from various causes, political derangement, money derangement, tariffs, embargoes, wars; by all these we lose, and the rest of the States gain. We are at all times, under every circumstance, tributary, dependent, and working emphatically for others. Do you believe it? Look at the States North, West, East, filled with wealth, comfort, public improvements, towns, cities, ships, com-What have we? Nothing in comparison. almost appears a self evident proposition, that the extensive and exclusive culture of cotton, is ruinous to the country which carries it on, but profitable to all the remainder of the world. Is it so? Then let us cast about and see in what we have erred, and so amend our ways. Our error then has been, not in growing cotton, but in neglecting provision crops—not in growing too much cotton, but in making too little provisions. It is demonstrable that the cotton, properly restricted in its limits, would have been and may yet be a great blessing to our State. The great Author of all good has given it to us-it is our duty to grow it. Suppose every man who has a plantation, would lay out sufficient grounds for pasturing his stock-plant and sow enough wheat, corn and oats, for an ample supply, and let cotton be a secondary cropmake what you can, after providing abundan'ly for provisions, and what would be the individual result—independence, provisions in abundance. And when the cotton was carried to market, a man might then feel that what he got for it, was his own—to be disposed of, not by necessity, but of choice. Although this policy might invite all cotton growing countries to the cotton business, it would nevertheless insure a profitable employment to us. We could so cultivate as to improve the quality, and by producing a superior article, insure a profitable market. It would moreover confer another excellent and superior advantage; not having so much depending on the fluctuations of the market, we could not lose so much, and in every respect be less dependant upon the madness and folly of mankind.

In conclusion, while the committee are led to doubt the advantages of the cotton business as heretofore conducted, to this or to any country, they are firmly of opinion, that on the plan they have marked and sketched out briefly, that is, to make it of secondary importance to the provision crop and rearing of stock, it would become a great blessing to the country, and a comfort and source of wealth

to the cultivator.

The committee believe, in coming to this conclusion, they are supported by the facts they have presented; they are aware they have only slightly noticed them—but trusting to the better judgment of the society, and the knowledge which all have of the subject, they leave to the society to condemn or approve, to reject or adopt.

All which is respectfully submitted.

B. B. COOK, Chairman Committee on Cotton.

March 7th, 1838.

Report of the Committee on Corn.

Your committee, in reporting on the planting, culture, &c. of Maize or Indian Corn, would observe, that they regard a proper selection of seed corn, as an object of great importance; because, as in the animal, so in the vegetable kingdom, "like produces like." Every species in creation (the which is procreative) may be improved in quality and fruitfulness by a judicious choice of breeders; the converse of the proposition holding equally good. This is demonstrable from analogy: but as we presume

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all planters will admit its force, we see no necessity to enter into the argument. Twin corn, like the twin ewe, is most apt to produce twain. The varieties of the Indian corn may be summed up in two general classes, viz., the gourd seed, and the flint corn: the first called the gourd-seed, because of its similitude in shape to the seed of the large gourd—and the flint so named, because of its flinty hardness. Amongst these two general classes, there are varieties of color-white, yellow, purple, and mixed colors—all of which may be crossed or amalgamated by the deposit of the faring or anther dust from the tassel of one plant, upon the ear and stock of the other species. The seed intended for planting, should be not only of the most prolific and best species, but also well matured. Unripe seed wheat will produce the smut in its produce; so will unripe corn: an unripe peach (even from an early species) will produce a peach which will not ripen with us before frost. So we may suppose all grain might or could degenerate: there are hereditary diseases in the vegetable no less than the animal creation. If this be true, the selection of seed is a desideratum in the growing of all plants; and that it is established by many observations and experiments of his life, the Chairman of your committee can entertain no doubt. A query for consideration arises; which is most profitable to the planter, the gourd-seed or the flint? It must be admitted, that the flint is the heaviest, according to measure, and contains more nutritive matter; but it is equally certain that the gourd-seed will measure most from the acre, with equal advantages otherwise, and sufficient too to make up more than the loss of weight. Admitting, however, as an hypothesis, that this should not be realized, your committee, on other grounds, would give the gourd-seed a decided superiority. It is more easily ground into meal: in a horse-mill, thirty bushels of this corn would be ground with as much case as twenty-five of the flint. It is more digestible: horses and hogs masticate it with less difficulty. It is observable, the Indian corn is most peculiarly adapted to certain climates and soils: it is generally admitted that the gourd-seed corn will finally change into flint corn, if cultivated for a few years in the lower country of South-Carolina; and it is also admitted that the same quality of lands will yield more corn in North-Carolina or Tennessee, than in South-Carolina. This latter

admission applies even where in North and South-Carolina the latitude is equal. Your committee, in thus contending that the flint is a degenerate corn, would merely add, that if the grain arrives at higher perfection in some climates North of South Carolina, it would afford good reason to procure seed thence—provided, the due atten-

tion had been given to its improvement.

A second consideration is, the best time for planting. The observations of many years have satisfied, at least the Chairman of your committee, that the sooner we procure a stand, the more sure the crop, particularly in up-In lowlands, subject to overflow, it will be often unsafe, (on account of the spring freshets) to procure an early stand. Corn planted in March, in general, has the advantages of the spring seasons and dews; besides, if as already observed, it is a plant somewhat congenial to a Northern climate; it has the spring months to grow and mature before it is blighted by the more intense summer's heat, and will therefore prove a more certain crop. Whatever the reasoning may be, the experience of the intelligent planter will testify, that in three years out of four, March corn will produce the most abundant and perfect grained crop. The late corn is liable to run up tall and slender, bearing therefore smaller ears. pendent of the advantage of a more abundant crop from early corn, it is an object to have the corn crop laid by soon, to enable the planter to look well to his cotton crop. Besides it suits best for the pea crop: peas ought to be planted the first of May, and this is suited to the second ploughing of the corn, which will not occur early in May, unless it (the corn) has been planted very early in March.

A third consideration is, the composition and fertility of the soil. Without a suitable mixture of clay and silicious matter, however fertile the soil, the crop will be extremely difficult to manage, and uncertain in its production. If too much clay, (and if old land) in a few days after a rain, it becomes too stiff for the plough, and too close for the roots to penetrate: if too sandy and porous, the strength of the soil quickly evaporates, leaving the roots of the corn too much exposed to the action of sun and air, in the heat of summer: if of a sandy bottom, as well as surface, the little strength of the soil both evaporates and sinks. It is better economy to pay soundly

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for a fine grit surface and clay subsoil, (the land being level) for ten year's use, than to cultivate a stiff clay, or

coarse sandy land, in corn, free of charge.

As regards fertility of soil for corn, it is unwise and ruinous to tend poor lands, though they should cost twenty dollars per acre to be enriched. Because if rich, they will produce forty bushels to the acre; if poor, not more than ten. So thirty bushels are gained in one year alone, besides the work saved of tending four acres instead of one, when either of the four takes as much or more cultivation than the one acre of enriched land. It is not uncommon for planters to say they have no time to make manure: your committee would ask them, if they have time to feed their plough horses? Will they trace the con-

nexion and carry out the idea?

A fourth consideration is, the preparation of the ground and best plan of planting. All old lands are the better prepared, by being ploughed and open to the winter freezes; and all early ploughings should be deep and close. The furrow intended for the reception of the corn should be opened deep, yet only cover a proper depth for the corn to break through: when covered deep, if cut down by the frost, it will come again; and when planted low, the roots run deeper and stand the summer-sun betterit is better hilled too with the plough, and less subject to the violence of winds. In planting, it may be expedient to put in seed enough to accommodate birds and squirrels, and still have a stand left: it is much better to thin out five plants than to replant one. If the stand is very bad, it will be safer to plough up and plant over again, than to replant, unless the replanting is done in time to tassel with the first planting; because it will lose the benefit of the anther dust falling from the first planting, and the stocks only prove as cumbrous to the first crop.

A fifth interrogatory in planting corn,—What is the best distance? This must be varied in different climates and soils: not so apt to fire in cold latitudes, it will there warrant closer planting. In the latitude of Fairfield, and on uplands, the Chairman of your committee has observed, that in drilling five feet by two, is the safest distance: and in the hill with one stock, four by three feet; if two stocks, five by five feet. Drilling is certainly the most fruitful plan. For the advantage of manuring, however, one stock three by four feet is preferable. By this plan,

the planter secures the advantages afforded in the drill, of cutting the roots only on one side, by ploughing the first time the narrow way, and the wide way altogether afterwards. It is admitted, that by giving more distance than three by four feet, the ears of corn in the main will grow larger; but the production by the acre will prove to be less.

As the sixth inquiry, your committee present a plan which they deem the best, of manuring corn ground. the present retrograde state of our country, this is of the last importance. It would be lucrative in every sense, to manure corn hills without exception, whether the lands are old or new: if new lands are manured, their productiveness is increased in the same proportion to old lands fertilized, and the planter is remunerated tenfold for his labor. To manure corn lands, open deep with the plough, plant five grains in the hill, cover lightly with the hoe— (and if stable or yard manure, throw on one spadeful to the hill; if cotton-seed manure, one handful) follow after with a plough on each side, so as barely to make the mold or earth to meet over the manure. This will, on the whole, make a deep cover, but the manure will prevent the earth banking over the corn, so that it will still come If the manure is not thus covered, (especially cotup. ton-seed manure) its value is lost by evaporation. In cotton lands, it is only necessary to cross a furrow, without breaking up, for planting, and follow after planting in breaking the middle spaces: in other lands, it is best to break up previously, following only one furrow on each side, which would be necessary without manure, to prevent the corn from washing up by the rains.

The seventh consideration will be, the plan for cultivation. When the ground is in good order, the two first ploughings should be ever very deep and close. This will cause the earth to retain moisture in summer, and the roots of the corn to run deep in the outset, so as to prevent the plough from cutting them too much in the after ploughings, which should be shallow. In the production of corn, let this be a rule—deep ploughing in the spring, and shallow in the summer. Corn should be tended fast; that is to say, the plough should go over the ground every three (never less than four) weeks. It is in the very nature of soil, that in its cultivation, it should be stirred often; it should be turned to the sun and atmos-

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phere. If the ground is not constitutionally hard, it is never too dry to be ploughed, but easily may be too wet. Many destroy the present crop by one ploughing when the ground is too wet: and unless the earth pulverizes or crumbles as the plough breaks up, it is too wet. When the ground is ploughed too wet, the destructive effects are only prevented when a shower of rain falls before the sun dries the earth. Two hoeings are necessary only in a crop of corn; a light molding after it first comes up, and a flat hill when laid by: four ploughings in poor ground, and three may answer in rich ground, if the corn makes with any rapidity. The last working in rich ground, should be when the corn tassels. To cut the roots, when the corn is shooting, checks the growth, thereby preventing the tassel from emitting the farma, and thus impedes the fecundation in the shoot or ear.

Connected with the corn crop, the pea crop forms an important item. Your committee have already adverted to the time of planting peas: they should be planted in the three feet space when distance four by three, by running one furrow and cover with another. In drilled corn, drop them in the drill before the plough, throwing the earth to the corn so as to cover the peas: never pull up pea-vines, unless you desire, or don't care how soon, your lands may be exhausted.

The eighth process of the corn crop is, to gather the blades for fodder. By gathering the fodder before the milky substance has become calcareous, many planters prevent the ears from maturing. It is argued by some, that grain produces more flour when cut off in its vegetation before full maturation: it is true, the meal or flour will be whiter, but it certainly loses much of its saccharine and oily matter. The Chairman of your committee is confident, that by this custom, the smut in wheat and oats is caused, (in not suffering the seed to mature for the next planting.) So it is likely the smut, as before observed, will be produced in corn. In gathering fodder, never stop for clouds: ot observe them, not unfrequently insures a loss of fodder.

The ninth and last process is, gathering the corn. Corn may be also prematurely gathered, producing when gathered in this way, a withering and shriveled grain: this process should never be undertaken till the stock has become dry, unless to get early pasture, and where the stocks themselves may serve as sufficient forage to coun-

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terbalance the loss in grain; and in which case, the corn must be carefully managed to prevent its rotting in the heart of the grain. Never save seed from such a part of the crop. To the proper improvement of your corn, your committee would again urge you to gather your seed from the stock by strict selection.

Your committee having hastily collated these remarks, as the result of observation and experiment, now leave their report with you for that examination which they are

aware should and will be undergone.

All which is respectfully submitted.

JON. DAVIS, Chairman of the Committee. March 7th, 1838.

Corn.

Georgia, March, 1838.

I am glad, Mr. Editor, that my last article, on Corn and Corn Planting, seems to have given satisfaction: and I feel pleased that it has been of some use, since one or two of my friends around me, have been profiting by my hints, and putting them into practice. They never did so before, and I am now convinced, that a man may sometimes induce his friends to follow his written notions, when they will not be content with his practical ones alone. This has shown me, the full importance of agricultural men committing their ideas to writing. But to the sub-In my last article on corn, I stated that almost any kind of decomposable matter would answer as food for the plant; and I insisted that it was best to apply such matter under the list or bed. It may sometimes happen, however, that the planter may have neglected to do this; and the question arises, whether on this account, he should neglect to apply any manure at all, to his corn. I say, decidedly no! A long practice has taught me, that corn will receive manure with advantage, during almost any period of its growth. I have even applied it with advantage when the corn was in mutton. But the earlier the manure is applied after the plant is up, the better. When I have neglected to apply the manure under the list, I think it best to do so, just before giving the corn the

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second working. In doing this, I carry the manure into the field, and there drop it at convenient distances, and in baskets have it carried to where it is to be worked in. Around each set of plants, about one or two double handsful of cotton seed, or rotted compost, is dropped, immediately after which, the same persons who have dropped the manure, proceed to cover it with the hoe. I prefer the use of the hoe at this stage, because the manure can be better covered than with the plough, and the earth around the plants can be better pulverized, which is a great object. I should here state, that if cotton seed is used, great care should be taken not to place the seed too near the plants, because when the cotton seed begins to sprout, it may heat the corn too much. It should be placed around the corn at about six inches distance from it; and as soon as the seeds sprout, they should be covered under with the hoe, and hauled up around the corn. If you have neither cotton-seed nor rotted compost, stable or cow-pen manure, suppose not that other manures are not at hand. You hear our planters of the interior complaining that they have leaves, but alas! they are pine leaves, which will not rot. All this I grant; but have they ever tried whether these same pine leaves will yield no aid to their corn, when applied around it? If they have not, I beg them, upon the faith of my word, to try the experiment, even on a small scale. Let them collect pine trash or leaves fresh from the woods; and around each hill of corn scatter a good arm full of the same. They need not be particular, even though the young corn should be covered up by the leaves; it will soon sprout again, and will show, by its green and healthy appearance, that it has been benefited by the application. But it will be asked—whence the benefit of such manure? It does not afford aliment—how can the plant be benefited? I answer, if it affords no food, it collects and retains moisture around the plant, which is a kind of food, and benefits it in other respects, which are sufficiently perceptible to all who will observe. Besides this, the application of the leaves, will save the corn a working or two; and if applied in sufficient quantity, will save the corn any working at all. If spread on thick enough, it will keep the grass down-will keep the earth mellow around the plants, and will effectually keep the plants from being burnt up in time of drought. These are important matters. Let any one who would be satisfied, only devote the quarter of an acre to the experiment.

Many persons may not, as yet, have planted their corn. To such I would offer one suggestion upon the selection of seed.

Select for planting only such ears of corn as are completely covered with full grains at both ends. I have found, that a small ear of corn, well covered with full grains at both ends, will produce better plants, than a larger ear, with one end imperfectly covered, or with defective grains. This always indicates that the corn was diseased in its maturation.

Observe also, to select such ears of corn as have small cobs—these, however, will be generally found in those ears which are well covered, as just stated.

HOMESPUN.

On Ploughing Corn.

Colleton District, March 19, 1838.

Mr. Editor,—I am somewhat astonished that the down country planters do not make more use of the plough than they do in their corn crops. I believe that the most of them plough their corn one way, but it is my opinion that they can work their corn crops as the up-country planter does, by ploughing it both ways. I expect they will say, that their land, which they plant in corn, is too low to plough both ways-I will admit that some of their land is too low to be ploughed both ways. I am well acquainted with the down-country lands, and I am satisfied that a great deal of their land can be ploughed both ways to make a crop of corn, without the assistance of the hoe at all. There would be so many advantages attending them if they could get in the way of making their corn with the plough altogether. I know it is a hard matter to persuade them that it can be done in the low country. I am acquainted with a down country planter that tried it one year, and because he failed that year, he told me it would not do. I know the land that he tried it on, and I am satisfied that I could take the same field now, and make a crop of corn on it with the plough; and the hoe

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it I d should never go on it to do five minutes work. I will allow that the planter I allude to did fail in making a crop, but Sir, it might have been owing to some cause that he has not yet found out, and may be, he will never find out, the cause of his failure. If I knew the manner in which he worked his corn, I might be able to tell him the cause of his failure. He might have ploughed his corn too often, or he might have ploughed it too deep, at a certain age of the corn, as ploughing oftener than once in fourteen days, will injure it, or ploughing corn too deep

the last ploughing, which is the finish.

I will now speak of the advantages that a crop of corn worked with the plough, has over the corn worked with In the first place, corn worked with the plough will stand drought better, and it will not break in a severe wind as much as corn worked with the hoe, for the land is loose and the corn will bend down, but will not break; while every planter knows, that corn worked with the hoe, will break off. Now the advantages arising to the down-country planter, from working his corn with the plough, will be these—he can plant six acres of cotton to the hand, where he does now plant but four acres. Some of the down-country planters will say, we would rather plant four acres, and manure it. Well, I agree with them. Well; you will be able to work your four acres better than you do now. But, Mr. Editor, there is another advantage that I will not forget, and it is this, that a boy 12 years old, with a mule and plough, will attend 20 acres of corn, which is equal to 5 hands with the hoe. I should be very glad it I could persuade some of the down country planters to try it, and I think that they would say, that I am right in my opinion.

I remain yours, respectfully, COLLETON.

P. S.—Mr. Editor, I have another piece to send you, on the subject of feeding Horses on Peas, to save Blades, which I will send you some other time.

I will send you some account of the Baden Corn in the fall, if nothing happens, as I have about 12 hills planted.

On Hay, &c.

March 26, 1838.

Mr. Editor,—I have read with much attention the several articles in your number for the present month, on the subject of provisions, and with particular interest, the editorial remarks on the startling fact, of rice having been imported into this port from the East Indies, and sold at a profit to the adventurer. It is indeed time we should cast about us, and undertake new pursuits, new to us at least, -first, such as will render us independent of other States or countries, and then, such as we can produce with the certainty of successful competition with similar products, of other parts of the world, in any market with which we trade. This is the only plan upon which we can grow rich, or be independent and happy. Turning over in my mind, the effect of shipping rough rice to Europe and the North, and, of the profitable importation of cleaned rice from Manilla, I came to the conclusion, that the tendencies are full of evil. It appears clear to me, that a speedy and certain consequence, will be to stimulate the people of South America, and the East Indies, to greater exertions, in the production of this grain. In its clean state, we have seen it can be advantageously opposed to ours in this market, which ought to afford it at as low a price at least, as any other in the Union; and it cannot be doubted, that in the rough, it will bear transportation from South America, to any port in North America, as well as from the Southern States to Europe, whenever the people of the South American States, shall be able to raise it in sufficient quantities, to attract the attention of our Northern merchants, and ship owners. foreign rice shall become an article of common importation into this country, the natural effect will be, reduction in the price of our produce, and a corresponding decline in the value, of the lands which grow it. We should not fold our arms in false security—for that day must and will come, or Yankee enterprise must become extinct; an event that is not likely to occur, and certainly one that no patriot can desire, that a particular business may not suffer from competition.

Are there not other articles, which would pay the planter as much as rice? I believe there are, and I be-

lieve hay will pay many, who plant rice on a small scale, or on precarious land, much more than rice. These planters have but to procure proper grasses or clover, and abundant crops will cover their lands; their purses will be better stored, and at a smaller expense of money and labor. Hay growers, on the Cooper and the Ashley, would have an advantage over those of the North. Their lands, being already under bank, they can let in and let off water at pleasure. Their crops need not of necessity suffer from drought, for if the water should be somewhat salt, one tide will refresh the soil, without injury to the crop. It should not be forgotten, the little salt which is in the water, is a good manure. A plantation of hay requires little labor, consequently but a few hands till mowing time—then a sufficient force must be employed for a

short period.

It would be well for some, and not a few, of our planters, to devote more attention to farming. Is farming, in any degree, less honorable than planting, as it is called? If one be necessarily, more roguish than the other, then that one is less honorable, but not otherwise. But a man's pride may be tickled by being called a great hay planter, and I for one will help to do it, by bowing my head as low, or lifting my beaver as high, to him, as to the largest planter of rice, or cotton, in the Union. Many can plant that indispensable article of provender, on a large scale, on all our rivers, and to great advantage. They would be sure of at least one heavy crop, before the approach of the season of storms, that period which always fills the bosom of the rice planter with intense anxiety; and which so often blasts his brightest prospects year after year, and finally places his estate within the clutches of the Sheriff. But a first cutting will ordinarily prove less than half a crop, for he will certainly have two heavy mowings for market, and a third for his stockand if (as sometimes occurs) we have an early spring and late fall, he will have four croppings of hay, in place of one of rice, if the gales perchance leave any worth harvesting. He would be saved the heavy expense of a pounding mill, or the charge of toll for cleaning his rice, and what his neighbors do not want, will always find a ready market here. Much less would be required to pay overseers, and support the plantation, because, growing hay does not require the intelligence and skill, neces-

sary in the manager of a rice plantation, and because, there will be but few laborers constantly upon it. same land, which sends to market two barrels of clean rice to the acre, can supply at least five tons (of 2,000 lbs.) of hay, which at ten dollars the ton, or fifty cents the hundred, pays (without calculating the difference in the cost of production) a much better interest than rice, at four dollars per hundred pounds. But who among us is so visionary as to imagine, rice, for a series of years, will average so much as four dollars—or that hav, will average so little as fifty cents, per hundred? Not one, I'll undertake to say. I hope some of our rice planters, and others, will reflect on this matter, and calculate the charges, and the returns in each case, and if my figures do not deceive me, it will be found hay is more profitable far, than rice.

Wherever we see much attention bestowed on hay, we will observe other matters appertaining to the profession of farming, are not neglected. The time (and there is much of it) which is not required by the hay crop, must be spent by the hands, sleeping flat on their backs, with their fly-traps wide open, or be devoted to horticulture, and the raising of small meats and poultry; all of which are readily converted into money, and afford always, a fair remuneration for the trouble bestowed on them. The living, of proprietor and laborers, on such a farm, will compare advantageously with that, on the best settled and conducted rice plantation, notwithstanding their boasted barn-door turkeys. As to those plantations, which do not enjoy the advantage of having their crops beat on them, I have but a poor opinion, and little to say.

It is a reproach to us, that we have not, in this city, one Carolina Horse. It is fact; for if foaled in the State, his skeleton is clothed in flesh, made up of Northern hay and corn. Now I am patriot enough, to be opposed to every thing like this. I am clear for producing, if possi-

ble, all our wants, and exporting less.

Never relax your exertions, Mr. Editor, but continue to spur your agricultural friends on, to the production of provisions and stock, and you will receive the hearty "well done," from a grateful people.

Respectfully, your ob't. serv't.

A CONSUMER.

PART II.

SELECTIONS.

The following was sent us in a printed sheet, by Dr. HENRY PER-RINE; we insert it for information, and its allusion to the introduction of the Lilly Flax in Florida, &c.

TO THE EDITOR OF THE SOUTHERS AGRICULTURIST.

New Zealand Flax Lilly.

Curtis' Botanical Magazine, Dec. 1st, 1832. Phormium tenax. Thunb. Diss. Nov. Gen. p. 94. First Gen. n. 24. Prodr. p. 325. Cook. Voy. v. 2 p. 96. cum. Ic. Thouin in Ann. du Mus. v. 2, p. 228, et 474, t. 19. St. Fond. v. 19. p. 401. t. 20. Redoubt. Liliac, t. 448-449. Ait. Hort. Kew. ed. 2, v. 2, p. 284. Schult. Syst. Veget. v. 6, p. 621. Spreng. Syst. Veget. v. 2, p. 76.

Description.—Root fleshy, forming a somewhat tuberiform rootstock, creeping beneath the surface of the soil, and sending up many tufts of luxuriantly growing leaves from four to eight feet long, and from two to four inches in diameter. They are distichous, vertical, coriaceous, deep green, somewhat glancous beneath, finely striated, ensiform, the margin and nerve, especially at the backs, are reddish orange; at the base the inner edge has a deep furrow, which sheathes the leaf immediately within it, and upon various parts of the surface a gummy substance flakes off in white spots or sea es.

From the centre of these tufes of leaves arises a scape, "12 ft. high, with 13 branches, of which the lower ones contain about 20 flowers, and the upper ones a less number in gradual diminution as they ascend to the top." These flowers are panicled and secund, ascending or pointing upwards; the pedunces and pedicils rounded, glabrons, often tinged with purple, and sheathed with scales or bractew margined with red.

The lower flowers of the branches seem to be very generally abortive and deciduous, breaking off at an apparent joint; the upper ones bear almost ripened capsules, while many of the former are still in full flower, and these capsules are oblong, tuquetious, brown and wrinkled, attenuated slightly at the base, and surrounded by the withered stamens and floral coverings, acuminated at the extremity, and terminated by the persistent but withered style, somewhat fleshy, three celled, each cell bearing numerous, compressed, imbrecated and erect seeds, inserted upon the inner angle of each cell.

In Cook's 1st voyage, Sir Joseph Banks discovered this highly useful plant. Speaking of the productions of New Zealand, he says! "But among all the trees, shrubs and plants of this country, there is not one that produces fruit, unless a berry, which has neither sweetness nor flavor, and which none but the boys took pains to gather, should be honored with that appellation. There is, however, a plant that serves the inhabitants instead of hemp and flax, which excels all that are put to the same purposes in other countries. Of this plant there are two sorts: the leaves of both resemble those of flags, but the flowers are smaller, and other clusters are more numerous; in one kind they are yellow, and in the other a deep red. From the leaves of these plants, with very little preparation, the natives make all their common apparel; and they also manufacture their strings, lines and cordage, for every purpose, which are so much stronger than any thing we can make with hemp, that they will not bear a comparison. From the same plant, by another process, they draw long slender fibres, which shine like silk and are as white as snow; of these, which are also surprisingly strong, the finer clothes are composed; while of the leaves, without any other preparation than splitting them into proper breadths, and tying the strips together, they make their fishing nets, some of which are of an enormous size. A plant which, with such advantage, might be applied to so many useful and important purposes, would certainly be a great acquisition to England, where it would probably thrive with very little trouble, as it seems to be hardy and to affect no particular soil, being found equally in hill and valley, in the dryest mold and deepest bogs. The bog, however, it seems rather to prefer, as near such places we found it to be larger than elsewhere."

The seeds brought home by Sir J.B. in 1771, did not succeed, but the N. Z. Flax Lilly was introduced to the Royal Garden at Kew, through the medium of the same enlightened individual in 1789; and thence has been liberally distributed to collections in England and on the Continent. Mr. Aiton sent it to the garden of the Museum of Natural History of Paris in 1800; has been cultivated in the open air of many districts, and first produced flowers in the Department of Drome 1812, but it bore no fruit. Messrs. Labillardiere, Faryas de Fond, Desfentaines and Freycinet, have devoted much attention to the cultivation and manufacture of this plant. It has even withstood the severe winters of Paris, but in the South of France it has been propagated with considerable success, and survived the winters without the smallest protection. In the departments of the West, particularly in the environs of Cherbourg, it has perfectly succeeded and yielded ripe fruit.

It is readily increased too by dividing the roots. Allen Cunningham, a very intelligent botanist and traveller, gives the following account of the Flax Lilly. "The Phormium tenax is indigenous to the Islands of New Zealand. On the Nothernmost of the Islands (Equaterward) which has been traversed almost in every direction by Europeans, it is found in greater or less abundance, as well on the immediate coasts in low situations, subject to be overflowed by the tide, as in the inland country, generally, in grounds more or less swampy. Extensively diffused as this valuable plant is over the surface of the Island, it is along its Western coast to the Southward of the parallel of 350, and in Cook's Streight, that the greatest quantities have been found, where it is said to grow in fields of inexhaustible extent. The indigenous growth of the Phormium is not limited simply to New Zealand; for it was long ago discovered in a wild state at Norfolk

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Island, where it forms long tufts along the cliffs, within the influence of the salt spray rising from the heavy surfs which ever and anon lash the iron bound shores of that small but truly beautiful spot of the Pa-The preparation of the Flax for their own use, or for exchange with Europeans, is effected by the native women; and their method of separating the silken fibre from the long flag-like leaf of the plant, of which it forms the under surface, appears simple enough. Holding the apex of a recently cut leaf between their toes, they make a transverse section through the succulent matter at that end with a shell, (which they still employ, although they possess every species of iron edge tool) and inserting the shell (said to be of the Genus Ostrea) between that substance and the fibre; readily effect its separation by drawing the shell through the whole length of the leaf. It is to be observed, that the separation is always performed by those people when the vegetable is freshly cut; as the leaf contains a gum which eauses the fibre to adhere more strongly when dry. Nor have the attempts of Europeans to extract the filaments from the leaf by maceration, been at all successful; the experiments that have been made at Sydney, showing that the large proportion of the succulent matter, (for so the failure was accounted for) rendered it impossible to effect the separation by decomposition in water, without materially injuring the strength of the libre. Simple as appears this mode of separating the Flax from the leaf by a shell in the hands of those savages, still the European has not succeeded in his endeavors to prepare the fibre for himself, either by that or any other means that have been tried; nor has any instrument or piece of machinery yet been invented to enable him to strip off and prepare this valuable filament for the English market. The Port Jackson traders must still be dependent on the native women and their shells for the cargoes they obtain. The flax thus obtained by the merchants of Sidney, undergoes no heckling, cleaning or preparation, previous to its being shipped for the English market; but it is merely made into bales by being put into a press and screwed. It is manufactured into every species of cordage excepting cables, and Mr. Bigge, the Commissioner of Enquiry to New South Wales, observes in his Report, pp. 52-53, "that its superiority of strength to the hemp of the Baltic, has been attested both by experiments made at Sidney, and by one that was effected under his own observation in the King's Garden at Deptford."

An experienced captain of a merchant vessel, who had been 35 years at sea, and many years in the trade between Liverpool and Manritius, spoke much in commendation of the ropes made of the N. Z. Flax, having employed them in the ships he had commanded. He had proved its superiority to hemp in ropes upon which there is always a great strain on shipboard; such as stays; braces, tacks, sheets, &c., and such were the strength and elasticity (hence its value for stays) and durability of fibre of the N. Z. Flax, the ropes could be made of less dimensions, and therefore more convenient to use than those of Baltic hemp, required for the same purposes. A new main sheet, (which in a cutter is a rope on which there is ever much stress) after a nine month's voyage was still good and serviceable, whereas had the rope been made of Baltic hemp, it would have been so worn by strain and friction, it would have been necessary to bend another

for the return voyage of 7 or 8 weeks duration.

For many years past, some communication has been kept up by individuals residing at Port Jackson, with the natives of New Zealand; but it is only of late that the trade in flax has been found to be a profitable speculation. Of this, the merchants of Hobart's town, and Launcerton, in Van Dieman's Land, are now fully aware; and having had their attention turned to its advantages, they are beginning to

prosecute it with ardor.

From the experiments of Mon. Labillardie, the relative strength of the N. Z. Flax is as follows: the fibres of common flax broke under a weight of 111; of common hemp 164; and of the Lilly Flax 23 7-11 -that is, the N. Z. Flax is nearly 50 per cent, stronger than common hemp, and fully 100 per cent, stronger than common flax. These foliaceous fibres possess also this further advantage over the cortical fibres of flax and hemp; that is, of a brilliant whiteness, which gives them a satinny appearance, so that the cloths made of them-need not be bleached by a terlious process, or through those other means by which the quality of flax and hemp is considerably injured. M. de St. Fond asserts, that the fibres may be obtained from the leaves by boiling them in soap water. Twenty-live pounds of the split leaves tied in bundles, are immersed in a sufficient quantity of water, in which three pounds of soap are dissoled. They are all then borled during five hours, until the leaves are deprived of a tenacious gluten or of a gum resin; and then they are carefully washed in running wa-To me it appears this must be an expensive process-yet as the recent accounts from France state that the whole expense of the mode now pursued to obtain these fibres does not exceed six francs the quintal, it seems that French chemistry must have accomplished the desideratum which English mechanics have attempted in vain. Yankee ingenuity, however, has not yet been engaged in the invention of machinery to effect the separation of these foliaceous fibres by simple scraping only. It is true that the machinery will have to be more complicated than the simple apparatus which will suffice for the leaves of the Agaves, of the Bromelias, of the Yuccas, and of all other plants with flat sword-shaped leaves without a midrig. The leaf of the N. Z. Flax Lilly, not only has a midrib extending from base to apex, but also towards the butt the sides of the leaf are folded together, and hence simple machinery cannot be easily applied to scrape the entire leaf. Nevertheless, the simple splitting of the leaves into two divisions through the midrib, may overcome this difficulty. The simple process of shell scraping by the natives, is undoubtedly the very best of all to preserve both the strength and the color of these foliaceous fibres; and hence the high importance of an American-invention to effect the same scraping by labor-saving machinery, It is not, however, abso-Intely essential that machinery shall be discovered to render the propagation of the flax lilly profitable in Florida and in our Southern States. Its generic name alone, derived from Phormos, a basket, was given in allusion to one of the uses made of the entire leaves of the plant in its native country. All travellers have spoken with pleasure of the varied uses of the leaves by these rude people for domestic manufactures. Besides their baskets, their mats have excited many enco-minus. Some mats are said to be of a peculiarly fine and glossy texture, with deep borders of various devices and different colors worked all round; the style of which, even to a Parisian belle would appear chaste and fashionable. Even the dresses of the untives were made of those leaves, split into 3 or 4 slits, and when dry, interwoven into each other so as to form a kind of stuff between netting and cloth with all the ends, 8 or 9 inches long, hanging out on the upper side, like shag or thumb matting. They also made a sort of cloth as coarse as the coarsest canvass, but it was "ten times as strong." Immense fishing nets we have seen, are made by simply tying together slips of the leaves. Of the uses to which the entire leaves and slips of the leaves would be converted to in the United States, some idea may be formed by a reference to the ingenious industry of our-countrywomen in the manufactures of hats, bonnets, &c. from the leaves of palms and the stalks of grasses. From strips of the leaves of this flax lilly. hats, bonnets, baskets, &c. would soon be made of much greater beauty, strength and durability than even the celebrated costly hats of Panama; and the price would be reduced proportionately as much as it has been reduced in the price of similar articles now manufactured on the farms and in the families of the New England States when compared with the sum at which they were sold when imported from other countries. Hence the propagation of this single plant alone on the worst soils of the Southern States, would not only cover them with a dense population of small cultivators, but might also triple that rural population by giving employment to their families in really domestic manufactures. At all events the numerous small cultivators of the South would thus be enabled to furnish the cheapest possible raw materials for the numerous: small manufactures of the North; and would thus create a mutually profitable and harmonious dependence of the great masses of population in both sections of the Union

The increase of the flax trade with the new Zealanders may be inferred from the following statistical facts, In 1828, the export of N. Z. flax from Sidney to England was 60 tons, and valued at £2.600 sterling. In 1830, the same exports ascended to \$41 tons; and in 1831 to 1062 tons, for the English market alone. That this flax lilly can be profitably propagated throughout all our Southern States, may be inferred from the fact. that it is profitably cultivated in the Southern Departments of France, and from the still more decisive fact that it has flourished several years in the open air of Charleston, S. C. For my own part, I have not the silghtest doubt that it may be spread over all the worst soils of the Southern and Southwestern States, especially in the Pinewoods, Magnolia Swamps, and other evergreen forests between the Potomac and the Mississippi. Should it not extend further inland than the Live Oak or within the influence of the saline atmosphere of the ocean, it merits to be spread over the whole extent of country heretofore covered with the live oak. At all events there is every human certainty that the territory of Florida is especially adapted to the flax lilly, and that it might be extended over millions of acres, as it is in its native New Zealand and Norfolk Island. My convictions of its certain success in Florida are founded on the descriptions of the climate and vegetation of New Zealand given by all travellers. Although these islands are situated between 34 and 48° S. L. yet as they are very narrow in proportion to their length, their length, their temperature is more moderate and uniform and the atmosphere more humid than would be inferred from their fatirudes alone. In a voyage to New Zealand in 1814-15, by John Liddiard Nicholas, Esq. and Revd. Samuel Marsden, they say, in speaking of the Bay of Islands, lat. 35° S. "The climate was so salubrious and inviting, that even in the depth of winter no other change was perceptible than a few refreshing showers, which gave mellow and vernal softness to the fields, while no sudden or violent transitions ever dis-

turbed the serenity of the mild atmosphere." Again on their excursions into the interior of the Northern Island, remark, "there was one feature of the country which every where struck us with admiration; and that was the fine rich verdure of the landscape wherever we turned our eyes, and which gave us at the same time a high opinion of the genial influence of the climate."-In Hawkesworth's Voy ages, v. 3, p. 34, it is said. "From the vegetables found here there is reason to conclude that the winters are milder than those of England; and we found the summer not hotter though more equally warm. Of musquitos and sand flies a few were found in almost every place where we went ashore." In another place it is observed that the English vegetables left by Cook on his first voyage continued to propagate themselves, although many of them were too tender to survive a winter in the open air of England. The character of vegetation also confirms my opinions. Many New Zealand plants are such as are found within the tropics or on their borders. The shores in many parts are beset with mangroves, the interior is covered with arborescent ferns, and in many parts the woods are so over-run with supplejacks that it is scarcely possible to force one's way among them. Among the trees were observed two or three kinds of fern like those of the West Indies. At Norfolk Island, where a sort of Spruce Pine trees are very large and very abundant, Cabbage Palms of 10 to 20 feet high are also a spontaneous growth; and here the flax lilly is still more luxuriant than in New Zealand. In New South Wales they give a decided preference to the flax filly of Norfolk Island both for quantity and quality.

But in both islands, whether in pine forests or undulating savannahs, whether on the seacost or in the interior, on hills or in valleys, the flax lilly flourishes in the greatest profusion as well in the most ex-

posed as the most sheltered situations.

Enough, however, I trust, has been said to prove that this flax Lilly can be propagated easily, at least throughout all Florida, and probably throughout all our Southern and South Western states. As the fields of France already furnish lilly flax enough to afford employment in manufactories to several thousand workmen, it may be anticipated that the forests of Florida will furnish soon flax lilly leaves enough to employ a million of family manufactoriers.

HENRY PERRINE.

WASHINGTON, D. C. 10th Feb. 1838.

Of the benefit derived from Draining in general.

From Johnstone on Draining,-Extracted from the Farmer's Register.

That the knowledge and utility of draining is almost as ancient as that of agriculture itself, appears from the Roman writers, "De re rustica," for it is mentioned as early, as the times of Cato, Palladius, Columella and Plioy, who mention it particularly, and describe some circumstances in the modes of draining at that time, that were lately considered as modern improvements.

From the description given by these writers, it is evident that they were sensible of the advantages, and were acquainted with various

^{*} Pliny, in his Natural History, says: "It is very advantageous to cut, and make wet land dry, by means of ditches," (drains.)

methods of constructing drains, (fossæ) both open and covered; and that our British agriculturists had little to boast of in that science till the discovery by Ellington, with whose system they were wholly unacquainted. Of all the improvements by which the value of land is advanced, to the equal benefit of the owner, the occupier, and of the community at large, there are none from which so many advantages have been, and may be, derived at a moderate expense, as that of draining, when skilfully applied. In the first instance, the owner is benefited by the increase of rent, the occupier by that of the produce, and the community by a greater supply of useful commodities, and by its affording a source of employment to many individuals in the lower ranks The climate is rendered more healthy and genial to both animal and vegetable life, by the removal of stagmant water, and the prevention of those noxious exhalatious arising from large tracts of moss and marshy ground, where the herbage gives little nourishment, and only promotes disease.

Since the introduction of draining into this country, the health of the inhabitants has been greatly improved; agues and other distempers being now comparatively unknown, that were formerly so frequent, occasioned by the humidity of the soil, and consequent impurity of the atmosphere, producing that miasma which so often proves fatel

The pastures that have been laid dry, maintain a larger stock of cattle and sheep than formerly, superior in size and quality, and less subject to disease. The rot, that destructive malady, is unknown in dry pastures; for wetness alone is the cause that produces it; and as no cure has hitherto been found, draining is the only preventive. The produce of the harvest, formerly precarious on such land, becomes, by draining, ample and productive in quantity, and the quality of the grain is improved also. If land that is in tillage remains wet, every manure that is applied to it loses its effect to a certain extent, and fails to produce that abundant crop, which a less quantity would yield, if such land were laid dry.

In wet land, seasons of tillage are lost, the labor is greater, and the return less. The seed is, in many cases, nearly lost; the produce is always scanty and inferior in quality; but when land is properly drained, every exertion of good husbandry is attended with success; and the farmer thrives where his predecessor was rained!

Arable land is fit for tillage earlier in spring, and later in autumn; it is easier managed, and kept clean at less expense, than when chilled with water, and only in very dry seasons accessible to the plough. Its effects on grass land are no less remarkable. By draining alone, it is wonderful to see the verdure that soon takes place; and it is worthy of remark, that a bog of the worst kind, after being thoroughly laid dry, (without any other melioration whatever) will spontaneously produce so many new and fine grasses, the seeds and roots of which have hither lain dormant, owing to superfluous moisture: but now spring forth, and afterwards continue to flourish and increase! The rushes, that formerly occupied the whole surface, soon decline, and better grasses rise in abundance. The advantages also of draining the bogs, mosses, and other tracts of swampy ground which are met with in so many even of the fertile districts of the country, are of great importance in other respects. Besides the benefit that is actually derived from the drainage of such land that is afterwards converted into a state of cultivation, a great deal might be done in contributing to the improvement of the climate and surrounding soils of the districts in which they are situated. By large open drains, these pestitential morasses might be freed of stagnant water, the extraction of which would not only render them dry, and productive of better herbage, but would afford an acquisition to many streams that have a scanty supply of water, for various kinds of machinery that arc, or might be, erected upon them. For inland navigation, too, a more abundant and permanent supply might be produced by this means.

The great extent of these hogs or mosses, many of their boundaries and divisions ill defined or disputed, and the want of co-operation among the several proprietors, prevent individuals, who have both the spirit and the means, from engaging in so troublesome, but otherwise not expensive undertaking; for one main drain, properly conducted,

would lay dry a very great extent of such ground.

This is a branch of the subject that would not be unworthy the consideration of the legislature,* and well deserves the attention of the society above mentioned, as will be further noticed in the sequel.

Trees grow readily in such low situations, when the noxious water is removed, and would in time yield profit, where the cultivation of corn or pasture would be more hazardous. In grazing countries, the benefit of this would be much felt in meliorating the condition of stock, by the shelter which such plantations afford. It is perhaps a longer period to look forward to, than may arrive within the limetime of the person who plants; but it is a certain fact, that tracts of moorish and swampy ground, planted when but imperfectly drained, have been (when the trees have come to maturity and were cut down) converted into good arable land, with the aid of only a slight additional drainage. This, the writer, in several instances, has seen during the course of his employment.

The merits of fiorin-grass (agrostis stolonifera) being now so well known, is an additional inducement to the drainage of even the most steril kinds of moss and moorish soils; for in these it thrives better than any other species of grass, and is known to yield avery abundant

and profitable return:

The draining of one large tract of land, may furnish water for the accommodation of another; which, if collected in sufficient quantities, may be converted to its improvement by irrigation. By the same means, a more abundant and regular supply of water may be obtained for mills and other machinery; for supplying houses, ponds, inclosures, &c. Drainage may also be applied with great advantage in the case of mines and quarries, by diminishing the quantity of water found in them, both by cutting off the resources above, and by letting down that which often impedes and obstructs their workings, into more porous strata below. In short, the benefits that result from a general and complete system of draining, to the agricultural and general improvement of this country, are so many, that the few instances in which they are neither seen nor acknowledged, can only proceed from prejudice, or from invincible obstinacy and blindness!

^{*} Commissioners and surveyors were appointed, and many thousand pounds paid by government, some years ago, for drainage-surveys of the bogs in Ireland.

Decrease of the Trade of the Southern, and Increase of that of the Northern Ports.

[FROM THE RICHMOND WHIG.]

The following extract is from one of the numbers of a series, now in the course of publication. by a writer who signs himself "Patrick Henry." It forms an appropriate appendage to the report on the "Southern Convent on. -Farmer's Register.]

It is a melancholy truth which ought long since to have been impressed upon the mind of every Southern politician, that while the North has been gradually advancing in prosperity and wealth, the South has been as gradually declining. Whatever may be the cause, the fact is undoubtedly so. Sure it is not from the want of resources. We have all the elements of commercial greatness. The staples of the South furnish by far the largest item in our domestic exports. Let us see the facts.

The value of exports from this to European countries, in the year 1832, amounted to \$44,676,463. Of this amount, cotton, rice and tobacco, (articles of exclusive Southern production) were of the value of \$38,506,257, leaving that of all other domestic articles exported, only \$6,170.206. But, as it may not be considered fair to take, as data, the exports of a single year, we will adopt the average amount of domestic exports for a series of years, viz., from the year 1821 to 1830. That average, in round numbers, according to authentic statistics, may be put down at \$53,000,000. The average amount of cotton, rice and tobacco, exported during the same period, is estimated at

\$33,000,000 in round numbers.

Now the population of the staple growing States, (or that portion of the population of those States engaged in the production of the Southern staples) may be put down at \$4,000,000. The balance of the States not growing these staples, may be estimated, in point of population, at \$8,000 000. So that a district of the Southern country, with a population of four millions, exports thirty-three millions of domestic produce; while the rest of the States, with a population of eight millions, furnish for exportation only twenty millions, from which must be deducted the amount of domestic manufactures exported, say five millions, and the amount of domestic exports of all the States, save those which grow the Southern staples of cotton, rice and tobacco, will be fourteen millions only. The result is, that the staple growing States, with one-third of the population, produce more than two-thirds of the domestic exports of the country.

It is not, therefore, that nature has not been bountiful to the South, that she has been doomed to commercial inferiority and dependence. Nor is it the want of enterprise. There is as much in Southern character, education and temperament, to stimulate enterprise, as in the Northern. The only difference is, that while the spirit of enterprise, common to the people of both sections of the Union, has been repressed in one case, it has been stimulated and encouraged in the other, by the

unequal fiscal operations of the government.

But let us continue the picture of Southern decline. While the South is the producer of the great articles of domestic export, she has dwindled in respect to import trade, to a point of insignificance which is absolutely disgraceful. Producing more than two-thirds of the articles which are given in exchange for foreign merchandize, she is the importer of not one-tenth of the merchandize thus received in exchange

for her staples.

The Southern reader, unaccustomed to statistical examinations, will be astonished, when he comes to behold in figures, the almost incredible depreciation of Southern trade. With the hope that it may excite serious reflection, and open the eyes of the Southern people to their true condition of commercial vassalage, I will illustrate the subject by actual statistics.

Perhaps it is not known that, prior to the revolution, the import trade of Virginia and South-Carolina each far exceeded that of New-York, Pennsylvania, or any one of the Northern colonies. Yet such

is the fact.

From the 'Virginia Gazette' of July 2d, 1747, I find the following: "A list of ships and vessels which sailed from Hampton roads, under convoy of his majesty's ship Folkstone, Captain Gregory." Then follow the names of the several ships, their commanders, and ports of destination, concluding with the following sentence: "There are besides these, many others, which had not received sailing orders when this list was made out, the whole amounting to fifty-two sail." All of these ships were bound for foreign ports, principally London, Liverpool, Glasgow and Bristol. Scarcely a number of the Gazette, too, that did not contain a list of foreign arrivals in the ports of Virginia, from the year 1747, to the breaking out of the American Revolution. Then Virginia, but a colony, enjoyed a large export and import trade. In one day, fifty-two sail left her waters, freighted with domestic produce, to bring back in return rich freights of English manufactures. When did we last see, or when shall we again see, a fleet of fifty sail gliding from our waters in pursuit of foreign ports? Never, until the fiscal action of this government shall have been changed. Then, be it recollected, there was no connection of government with banks; there was no banks at all, one colony was not cherished and built up at the expense of another, by the unequal fiscal action of the government; each colony was upon a level; each could compete with the other; each relying upon its native means and resources; and hence the trade of Virginia at that period. But to continue the statistics.

In 1769, the value of the imports of the several colonies was as

follows:

Of Virginia,	£851,140	sterling.
New England States,	561,000	do.
New York,	189,000	do.
Pennsylvania,	400,000	do.
South-Carolina.	555,000	do.

The exports were in about the same proportion, Virginia exporting nearly four times as much as New York, and South-Carolina nearly twice as much as New York and Pennsylvania together, and five times as much as all the New England States united.

The same relative proportion of imports is preserved until the adoption of the federal constitution, when we find them to be in the year 1791, as follows:

Of New York,	\$3,222,000
Virginia,	2,486,000
South-Carolina,	1,520,000

The above is the amount of imported merchandize which paid ad valorem and specific duties. But as there were few goods at that time admitted free of duty, the data given approximates to the truth. There are none to show the imports into the several States from the year 1791 to 1820, but the general fact that may be assumed, that the import trade of New-York and other Northern States, has been constantly progressing, while that of Virginia and South-Carolina has as regularly diminished. From 1821, to the present time, we have sufficient data, and they exhibit the following, as the state of the import trade:

N. York.		Virginia.		S. Carolina.	
1821,	\$23,000,000	1821,	\$1,078,0001	1821,	\$3,000,000
1822.	35,000,000	1822.	864,000	1822,	2,000,000
1823.	29,000,000	1823.	681,000	1823.	2,000,000
1824.	36,000,000	1824.	639,090	1824.	2,400,000
1825,	49,000,000	1825,	553,000	1825,	2,150,000
1827.	39,000,000	1827.	431,000	1827.	1,800,000
1829,	43,000,000	1829,	375,000	1829,	1,240,000
1832,	57,000,000	1832,	550,000	1832.	1,213,000

Thus, the import trade of New York has gradually increased from £189,000 sterling, about £40,000, in the year 1769, and from about three millions of dollars in 1791, to the enormous sum, in 1832, of fifty-seven millions of dollars! While Virginia has fallen off, in her import trade, from two and a half millions of dollars, in 1791, to \$375,000 in 1829, and \$550,000 in 1832, not a great deal more than the

freight of half a dozen ships!

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From these calculations, a few curious facts appear. The imports of New-York were, in 1832 seventy times as great as they were in 1769, and nearly twenty times more than they were in 1791, when the first United States' Bank went into operation. Virginia, on the other hand, imported, in 1829, about one-eleventh of what she did in 1769, and about one-seventh of what she did in 1791. In a period too, of eight years, the aggregate imports of New-York amounted to 311 millions of dollars; those of South-Carolina to about 16 millions, and those of Virginia to about five millions! New-York imported, therefore, in 1832, eleven times as much as Virginia did in eight years preceding, and nearly four times as much in the single year of 1832, as South-Carolina imported in a period of eight years. Again, New-York imported in one year, (1832) nearly fifty times as much as South Carolina in the same year, and about 110 times as much as Virginia.

Thus, it seems, that while the South produces two-thirds and more of the whole domestic exports, which constitute the foundation of our foreign trade, her commercial dependence upon the North is most abject and complete. Her citizens pay a tax of at least twenty-five per cent. on the whole amount of their consumption. What the exact amount of this tribute is, it is difficult to determine. It has been generally estimated at ten millions of dollars, which is more likely to be below than above the truth. Upon the whole, we are brought to this truth, that while New-York, and other of our Northern sisters, have progressively advanced to a degree of commercial prosperity almost incredible, Virginia and her neighboring sisters behold their import

trade reduced almost to annihilation.

It becomes the Southern people, if they would be relieved from this disgraceful thraldom, to enquire into the causes which have produced it. We have already shown that it is not to be ascribed to the want of

means or resources. In my humble judgment, it is the effect of the centralism of moneyed power; the consolidation at the North of an immense banking capital, in the form of a United States Bank, aided by the fiscal action of the government. These causes are amply sufficient to account for the phenomenon.

Marl.

[FROM THE AMERICAN ENCYCLOP@DIA]

Compact limestone by increase of argillaceous matter, passes into Marl is essentially composed of carbonate of lime and clay, in various proportions. But some marls are more or less indurated, while others are friable and earthy. In some, the argillaceous ingredient is comparatively small, while in others it abounds, and furnishes the predominant characters. The calcareous and argillaceous marls unite by imperceptible degrees, and the latter sometimes pass into clay. Marl frequently contains sand and some other foreign ingredients. Some divide marls into calcareous and argillaceous, and others into indurated and earthy. The hardiness of indurated marl is inconsiderable. In most cases, it may be scratched by the finger nail, and may always be easily cut by a knife. It has a dull aspect, " like chalk or clay, often with a few glimmering spots arising from sand or mica. Its fracture, usually earthy, may also be splintery or conchoidal. It is opaque; its color commonly gray, often shaded with yellow, blue, brown, black, &c. It also presents shades of green, and is sometimes reddish or yellowish-brown. Specific gravity usually between 23 and 27. It occurs in masses either compact or possessing a slaty structure. All solid marks crumble by exposure to the atmosphere, usually in the course of a year, but sometimes a longer period is requisite. The same changes generally take place in a very short time, when the marl is immersed in water, with which it torms a short paste. It crumbles more easily, and forms a more tenacious paste in proportion as it becomes more argillaceous. It is always more or less easily fusible. All marls effervesce with acids, sometimes very briskly and sometimes feebly, according to their solidity and the proportion of carbonate of lime, which may vary from 25 to 80 per cent.—indeed in the argillaceous marls it is often much less. Earthy marl differs from the preceding by being more or less friable and even loose; but they gradually pass into each other. Like the indurated marl, it may be either calcareous or argillaceous. It sometimes greatly resembles clay, but may be distinguished by its effervescence in acids.-Marl, like clay, belongs to both secondary and alluvial earths, where it occurs in masses or in beds. Hence it is found associated with compact limestone, chalk, gypsum, or with sand or clay. It contains various organic remains, as shell, fish, bones of birds and quadrupeds, and sometimes vegetables. The organic remains are numerous and extremely interesting in the marly strata examined by Cuvier and Brogniart in the vicinity of Paris. Marl is found more or less in most countries. Its most general use is as a manure. The fertility of any soil depends in a great degree on the suitable proportion of the earths which it contains: and whether a calcareous or an argillaceous marl will be more suitable to a given soil, may be determined with much probat

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billity by its tenacity or looseness, moisture or dryness. To employ marls judiciously, therefore, the farmer should be in some degree acquainted with the chemical properties or constituent parts of the marl itself, and with the ingredients of the soil. He may, in general, determine the existence of marl by its falling into powder, when dried after exposure to moist air. To ascertain the proportion of its ingredients, the calcareous part may be extracted from a given weight of the marl, by solution in acids, and the residue, being dried and weighed will give the quantity of clay with sufficient accuracy.

On Mixing Lime with Manure.

[FROM THE YANKEE FARMER.]

Mr. Editor:—As I have heard the question often asked why your valuable journal did not contain more respecting the use of mineral manures, I have taken the liberty to make some extracts, hoping that others that are better able will give you a series upon the subject of these manures.

In "Notices of a Young Farmer," which is ascribed to the Hon. Judge Peters, of Pennsylvania, (than whom no one stands higher on the roll of American Agriculturists) we have the following directions and assertions: "Mix earth with fermenting litter or muck, rather than lime, until the fermentation be sufficiently advanced. Plaster, in compost in which vegetable matter is mixed, is more beneficial Again he says, "Mix not hot lime with your muck, dung, or compost heap before fermentation has ceased, or sufficiently advanced, as it injures moderate fermentation, and often consumes the muck. Instances of even conflagration of straw muck, by hot lime, to a great extent, can be given. If lime be used, that which is slaked is saftest and best, when mixed with either dung or compost." The same opinions are expressed by authors. The writer of the article "Compost," in Rees's Encyclopedia, directs. in making composts, to interpose a layer of earth between every layer of dung and of lime. I should think that in all cases where the manure is combustible, quiek lime would injure if not destroy it, and I do not see why a cultivator may not as well burn a straw or muck heap with hot coals as with hot lime. I will here subjoin one other quotation from the work of Judge Peters. "Nothing requires more attention to the nature and quality of your soil then the use of lime.—If it be too lavishly applied, or too frequently repeated without intervals of grass to furnish vegetable matter, or manures, either animal or vegetable, ploughed in for the lime (according to the country phraseology) to feed on, it renders your ground lime sick, and reduces it to sterility. Our caustic lime must be applied in quantities far less than the mild lime of Europe, if we would avoid turning a highly beneficial auxiliary into a destructive scourge. No certain rules, as to quantity per acre, can be fixed without a perfect knowledge of the soil to which it is to be applied. In all cases, moderate quantities at first, are the saftest. Our common lime is here meant; as much depends on the kind of lime applied. It must therefore be the study of those that apply lime, to discover its composition, or what is called its strength before they can form a correct opinion of its salutary or injurious uses. It would seem that the mild lime had some fertilizing qualities in itself, otherwise the lavish use of it, as frequently stated, cannot be accounted for. The lime of burnt oyster shells is mild; and land of any tolerable staple will bear great quantities beyond the proper allowance, to the acre of caustic lime. Many other instances might be adduced. Both large and small quantities operate at once. But it is fugacious, and compared with caustic lime, soon exhausted. Of the mild lime of England, seven hundred bushels have been put on an acre, and two hundred bushels are common. What is the strength of their mild lime compared with oyster shell lime, or with our magnesia or caustic lime is unknown. Forty to sixty bushels of the latter are amply sufficient with us, for any worn acre; and for most part of our worn land too much at the first dressing. What quantity of oyster shell lime is proper at first, is not yet ascertained. Repetitions of smaller quantities, at intervals, would be better than applications of too much at once.

A few Suggestions in regard to planting out Fruit Trees.

[FROM THE MAGAZINE OF HORTICULTURE.]

Does it not frequently happen, that those about to commence planting trees are not sufficiently aware what a very important item the soil forms? Where the soil is particularly adapted to the growth of fruit trees, is it not much better to devote a sufficient quantity entirely to that purpose, and render it fit by deep ploughing, trenching, manuring, and, in short, to make the soil of a suitable depth.—say eighteen inches at least,—than to plant out trees promiscuously over a large tract?

It is believed that a much greater quantity of fruit, of a much superior quality, may be grown on one acre of land naturally suitable for the purpose, or made so by art, than can be raised on several where its adaption is not taken into the account.

It is doubtless true that trees may be made to flourish for a while, in a soil naturally barren, (or exhausted by injudicious cultivation,) by digging the holes, for their reception, very large and deep, filling them, when the trees are being transplanted, with a rich compost: but will they continue to grow, when they shall have extended beyond the bounds of the original excavation? Will they not, by degrees, become mossy, dwindle for a while, and finally sink into premature decay?

When one is obliged to plant trees on a sandy or gravelly soil, perhaps ditch or pond mud, (or clay in a less quantity,) with a suitable proportion of compost manure, spread on to the depth of several inches, and ploughed in, would be sufficient were apple or pear trees are to be cultivated.

Where cherry or plum trees are to be grown, it would be better to cart on a sufficient quantity of rich loam, sods &c.; for plums, where it is practicable, perhaps a third or quarter part of salt marsh mud may be used with advantage, to make the soil of the depth.

Where peach trees only are to be transplanted, a light dressing of compost, consisting of stable manure, lime, wood ashes and loam will answer the purpose.

An error, which has been practiced to a considerable extent, is, that

of transplanting the roots at a much too great a depth for the trees to flourish with vigor.

The distance between the trees must be regulated by the size which they will probably attain: they should not be planted so near as to interfere with each other, when fully grown.

When manure is spread round fruit trees, an erroneous practice

prevails of putting it too near their trunks.

Some varieties of apples and pears (it is probably the case with other fruit trees, vines, &c.) will flourish where others will not; the Roxbury russet apple requires a strong and rather moist soil to produce large and fair fruit; the Rhode Island greening flourishes on a comparatively light and dry loam; and the American summer pearmain (the tree is of small growth,) has the reputation of succeeding on light or sandy soils.

By some the autumn is preferred for removing trees, and by others the spring. The spring is doubtless to be preferred for the peach and plum: as regards apples and pears, if the ground where they are to be set is somewhat moist, transplant them in the spring; if it is rather dry, the autumn is quite as well. The general rule for fruit trees is,

when the sap is dormant.

Select young and thrifty trees from the nursery, of good size, not forgetting the great importance of their having sufficient roots; dig the holes about six inches larger in diameter than the roots are, when extended, and let the trees be not more than one inch deeper than they grew in the nursery. It is geneally advisable to put some mulch (bushes which have been mown answer a good purpose,) round trees the ensuing summer after planting them, if the weather should prove dry, to be removed in the autumn.

After trees have been transplanted, they will require attention to see that they are not prayed on by insects, that they do not get loose and are kept in proper form by a judicious pruning; which ought to

be performed annually, when the sap is in full motion.

If proper pains have been bestowed on making the soil suitable, and if the trees have not been transplanted in a hurry, should you not have the satisfaction of seeing them flourish, you will have no cause of self-reproach.

E. M. R.

Dedham, Mass. Dec., 1837.

On the Planting, Pruning, and Management of Buckthorns for Hedges or Live Fences. By J. W. Russell, Superintendent at Mount Aubnrn.

[FROM THE MAGAZINB OF HORTICULTURE.]

Those persons who are desirous of obtaining, at the least possible expense, a good and durable fence around either gardens or farms, I would advise to give the preference to the buckthorn over any other kind of shrubs or plants that may have been recommended to them for this purpose, at least in this part of America. In the first place no kind of cattle have been known to feed on it; the field-mouse, that has been so destructive to trees through the winter months, of late years, never has molested it; no kind of borers or worms have as

yet been known to feed on either roots or branches. It is also a very hardy plant, for it is seldom or never injured by the severity of our winters. It is naturally of a shrubby compact growth; therefore the better adapted for hedges than any other native plant within my knowledge. The fact is, that it might, with no impropriety that I am aware of, be termed the New England hawthorn; for I think, ere long, it will be as universally used throughout the United States, for live fences, as the hawthorn is in the north of England. The plants can be obtained at any of the nurseries near Boston from two to three years old, and the cost will be from three to five dollars the hundred. I wish it to be borne in mind, that plants of the age just mentioned, should always be selected in preference to those of larger

growth.

In the spring of the year, as early as the frost leaves the ground, the hedge may be planted, and if the trench was dug out in the autumn previous, not less than three feet in width, and about fifteen or eighteen inches in depth, leaving the earth in a ridge on each side of the trench, for the purpose of freezing and thawing, it would add much to the quality of the soil at the time of planting. In order to do this work in the most thorough manner, the earth on only one side of the trench should be broken up pretty fine with the spade, before putting it into the trench; when this is done and nicely levelled, some good old manure, that has more the appearance of rich earth than any thing else, should be placed on the soil that is already in the trench. The quantity that may be used must be left at the option of the operator, as he will be the most likely to judge of the good or bad qualities of the original soil; however, I should be in favor of giving the earth in the trench a bountiful dressing with the manure, more especially if such as I have spoken of can be obtained; if not, the nearer the prox-

imity to it, the better.

I shall now suppose that one half of the earth, that was dug out in the autumn, is placed in the trench, with the manure, more or less, on the top of it; the earth that is still on the opposite side should now be not the manure; this done the work men should begin at one and

put on the manure; this done the workmen should begin at one end of the trench, and dig or trench it all over, being mindfol to incorporate the soil and manure well together. As soon as this is finished, the hedge may be planted in the following manner, viz. first, stretch a line across the centre of the trench as tight as possible; then with a good spade open the trench from the line, as deep as you will immediately perceive is necessary, from examining the roots of the plants; or a good criterion to go by would be, to set them as deep as they were originally planted, which may be easily known by a little observation. By keeping the line tight, and planting as close to or as near as possible, so as not to touch it, and observing to set the plants about nine inches apart in the row, or plant from plant, they will stand exactly where they ought to be; that is as near as may be in the centre of the ground prepared for this purpose. The earth, having been all levelled carefully round the plants, the work is finished. I had nearly forgot to say, that the roots of the plants should have been pruned a little before planting, but not a particle of the top should be touched with a knife this year. In the spring of the year, after planting, the whole of the hedge must be cut down to within three or four inches of the ground: if this is not done, it is a hundred to one that the hedge will ever answer the purpose it was planted for, namely, that of having

it thick and impenetrable at the bottom. There is not the least to be

feared about the top.

In the spring of the year, after cutting the hedge down, or the third year from planting, I would advise only a partial cutting, that is, to go over all of the hedge with a sharp knife, cutting down again only the strong luxuriant shoots to within three or four inches from where they started, leaving all the weak shoots untouched. This will be the means of making the hedge still thicker at the bottom; and it will be the last time that there will be any need of cutting so near the roots,

The fourth year the whole hedge ought to be brought into a good shape; and the shape of a hedge which I like to see best, is as near the shape of the first letter in the alphabet as any thing I can refer the reader to. I have seen hedges more than a mile in length of this shape, five or six feet high, and so thick at the bottom that a small dog could not have possibly found a place to have passed through it. The snow can never be of the least injury to a hedge formed in this manner: besides, who likes to look at a hedge thick at the top and thin at the botom, when the remedy is at hand. Clearing away weeds &c. once a year from the roots of the hedge, should not be neglected the first three or four years.

J. W. RUSSELL.

Mount Auburn, Cambridge, Dec. 14, 1837.

On the Culture of Ruta Baga.

[FROM THE GENESEE FARMER.]

As the ruta baga and all other root crops are gaining, especially in this country, I will give you the result of my experience. I have raised the ruta baga more or less for seven years past. My usual way has been to sow on new timbered land, without ploughing. I have succeeded some years admirably, and some not so well. I have never attempted a crop of turnips that would not have cleared me \$25 per acre. Some years the crop has cleared over \$100 per acre.

I propose to give you the result of 1½ acres that I have raised this year. The field was wheat stubble, timbered land, which was not ploughed for the wheat crop; the soil a black sand mixed with loom. The piece was ploughed in the spring, then left until the first week in June; it was then ploughed and harrowed, the roots, &c. cleaned from the ground, and 4 oz. of seed sown broad cast and well harrowed. After they got into the rough leaf, they were thinned and cleaned from weeds. This is all the cultivation, with the exception of a few hours in August, pulling weeds around stumps, &c.

	s in August, pulling w								
The	result was, I gathered	800	bushel	s at 1	15 cen	its,	-	\$120	00
	to expense preparing g						-	\$6	00
	44 days weeding and	thin	ning,	-	-	-	-	4	50
**	64 days gathering,	-	-	-	-	-		5	00

\$15 60

The net proceeds of 1½ acres of land, - - - \$104 50

No farmer would be wise in selling turnips at the price stated above.

I count them equal to corn in the ear, that is, a bushel of turnips are equal to a bushel of ears of corn.

Experiments in the Culture of Carrots.

[FROM THE GENESEE FARMER.]

I want to say a few words on raising Carrots, as this year is my first experiment. A friend of mine last winter was advising me to sow some carrots. From his experience he believed he could raise more carrots than turnips from the same land, and he believed they were worth more. Being a friend to the ruta buga, I was slow to believe the carrot could be made as profitable. He succeeded in getting me to sow an acre by his giving me the seed. I sowed about this of an acre in the same field where I sowed my turnips the year before. I sowed about the 10th of May. I had so little faith in the crop I would not sow more than half the seed my friend gave me. gave what I had left to one of my neighbors. My carrots came up very well, but I was so faithless in the crop that I neglected them until after I had hoed my corn. I examined them and thought it not worth while to weed them, but I was overpersuaded by my hired man. We spent nearly four days work in hoing them-the weeds had got such a start that we destroyed the carrots altogether on one third of the piece. This is all the cultivation they had. This fall, to my astonishment, on gathering them, I found I had a little more than 200 bushels. It was led to weigh some of them by seeing a piece in the Farmer of some one showing you some that were very nice weighing 24 to 3 lbs

Cr. by 200 bushels Carrots, at 25 cts.,		•	-	-	\$50 00
Dr. to preparing ground and sowing,	-	-	-	-	\$2 50
" weeding and thinning	4	-	-	-	4 00

six days gathering at 75 cts., -4 50

\$11 00

\$39 00 Nett proceeds of three eighths of an acre of land, I have made calculations according to the prices that I sold them in the field. I shall make some experiments in feeding turnips and carrots and the result I shall record. Yours respectfully,
A. FORD, Jr.

Union District, Michigan, Dec. 11, 1837.

Setting Milk for Cream, &c. [FROM THE GENESEE FARMER.]

Mr. Tucker-Having found much satisfaction in reading the communications of others in the Monthly Genesee Farmer, I have concluded to offer some of my experience in the great field of Agriculture. And first, I will state my plan in setting Milk for Cream, which I consider much more convenient than the common way. My first education in this respect, was, of course, to set the milk in broad shallow pans, so that it would stand thin as well as cool; but about ten or twelve years ago my milk became too plenteous for my pans, and I was driven to the necessity of setting my milk in high earthers pots, such as we use to keep cream in. When we commenced this operation, I told my wife that we should get but little cream from those

pots; yet we had no other way to save our milk. But to our suprise we found the high pots to produce as much cream in proportion to the quantity of milk as any other vessels. Encouraged by this result we adopted the plan of setting our milk in common 8, 10 or 12 quart tin pails, which would occupy but little room even for the largest dairies. We found these pails much more convenient, being much easier skimmed, and easily removed from place to place by the bails. Ever since we commenced this practice, our butter has commanded the highest price in market, and we have proved beyond all doubt that the cream will rise as perfectly 10 or 12 inches deep as in any other way.

Another circumstance it may be proper to mention. Having found some difficulty by reason of some of my cows in the latter part of the summer, refusing to give their milk freely in the morning, so that I could get their milk but once a day, which dried them up very fast, I sought for a long time for a remedy by reading and conversing with my neighbors, but no remedy could I find, until at length, instead of salting my cows twice a week, I furnished myself with a box about six inches square in the clear, into which I put a handful of salt, and took it every morning with my pail, letting the cow partake of the salt while I was milking. I have continued the practice, of salting all my cows every morning; and beside effecting the cure of their holding up their milk, I find that they give an increased quantity, so that I consider my self richly rewarded for the extra trouble.

ELIAS SPRAGUE.

North Boston, Erie Co., Dec. 18, 1837.

The Manufacture of Silk a Healthy Employment.

[FROM THE NORTHAMPTON COURIER.]

It is hoped in consideration of the encouragement given by our State Government, in offering a bounty on the Culture of silk, about sufficient to cover the whole expense of gathering the leaves, feeding the worms, and reeling the silk, in effect, making every pound of silk a clear profit, and from the most certain and sure return, of a greater profit than from any other agricultural pursuit-that the amount of silk raised another year in the Old County of Hampshire, shall tell on the page of our history, a story that shall never be forgotten. It is also hoped, that every friend to the culture of silk, will appropriate not only the small, but as large a mulberry patch as he can, and receive the reward of his investment and industry, in a return of silk, far exceeding his most sanguine expectations; and in further consideration, that the manufacture of silk, whether done in families or factories, is considered a healthy employment in those countries where silk is grown and manufactured-far more healthy than the manufacture of wool, flax or cotton. It is understood that there is a Law of Great Britain, (where, however, they do not grow, but manufacture immense quantities of imported silk,) regulating the employment of children in Factories, prohibiting any child under nine years of age, being employed in any Woolen, Flax, or Cotton Factory, and where a child between 9 and 13 years is employed, the certificate of a Physician shall be required, as to the bodily health and appearance of the child, and a school master's certificate, that the child, had attended school

two hours every day, that said child shall not be employed in a factory over 48 hours in a whole week, not over nine hours in any one day; yet the same Statute provides, that children may be employed 10 hours a day in Silk Factories. It is therefore a fair inference, that the Silk business in England is considered a healthy employment. Taking it for granted, that the employment is healthy, and is known to be pleasent and profitable, where then can be the injury of employing children five or six weeks, in gathering foliage and feeding worms, and in that short time, to earn something to pay their schooling and clothing, and perhaps something towards their board, and something towards procuring trifling articles, always desired by children? Children are usually desirous of earning something to call their own, and expend according to their own fancy, where then is the parent, having the ability, who would not devote a few rods of ground in the garden or near the house, and set the same with mulberry trees, for the gratification, the amusement, and profitable employment of his children?

There is a law of the Commonwealth, put in operation in 1837, which provides that no child under the age of 15 years, shall be employed in any manufacturing establishment, unless the child shall have been instructed by a qualified teacher, at least three months next preceding any and every year, in which such child shall be employed, under the penalty of 50 dollars for each offence.

Had the law restricted the child to a certain number of hours of employment each day, it would have been an improvement, and it is hoped our next Legislature will take this subject into consideration.

Successful Cultivation of Roots.

[FROM THE GENESEE FRAMER.]

Mr. Tucker: My business is to work, and not to write for the press, but as you ask communications from the farmer, I will in my plain way, state what I have experienced in the cultivation of the Potato, Ruta Baga, Mangle Wurzel, Carrot, and Sugar Beet; manner of feeding, storing, &c., and the quantity of roots I raised this season.

The Potato with me for ten years, the last excepted, has been a fair crop, but by adhering to the old method of tillage, has been more expensive than is necessary, as I find by the course I have adopted this season. I planted three acres the 29th and 30th of May; first ploughed, then manured with coarse barn-yard manure; then ploughed again and harrowed. Struck out the rows three feet apart with a one-horse plough, say five inches deep; dropped the seed eighteen inches apart, turned back the furrow, and the work was done. For hoeing first and second time, the cultivator, so gaged as to fill the whole space between the rows, was passed through, followed by the hoe, giving a slight dressing, but making little or no hill, and the whole labor, after the ground was fitted did not exceed three and a half days' work per acre. By the use of the plough the seed was planted deep; the potato never takes a downward direction. The cultivator loosened and mellowed the earth so as to allow the roots to extend, and to occupy nearly the whole row. Get an expanding and contracting cultivator. Get one! Get one!! The product was over 430 bushels per acre: 1300 bushels from the 3 acres.

The Ruta Baga I had cultivated to considerable extent for three

years with success. This year I planted three acres in drills twentyone inches apart, 26th and 27th of June. So soon as up, I sifted
house ashes and plaster, mixed in equal quantities, at the rate of fifteen bushels per acre, with wire sieves, row by row, over the whole.
The effect more than answered my expectations; that little pest, the
turnip bug or fly, or its ravages, was not seen at all, and the growth
was most vigorous. One acre of the piece had been planted with carrots, only about one-fourth of which was standing, by reason of the
insect, bad seed, or both, and ruta baga was planted in all the vacant
places in the rows. They were thinned out, and hoed twice; they
soon covered the ground, and the work was done. The product is
over 1000 bushels per acre; 3000 bushels the whole, notwithstanding
one acre was partially seeded with carrots, and produced 200 bushels.
About one acre of the land is fine sandy loam, and the remainder is
state washed from a ravine, all highly manured.

The ruta baga I think draws more from the atmosphere, and less from the soil, than any other vegetable; for I have always found it retained the dew longer, and held it in greater quantities, than any thing else. It leaves the ground in finer condition than any other crop, and cannot be too highly valued. The carrot is excellent for fattening cattle, milch cows &c. but is not so sure a crop, and requires much more labor in tillage. It does not always come up well, and is very liable to be destroyed by the insect.

The Mangle Wuntzel—Of this root I planted one and a half acre on the 29th and 30th of May, (too late by ten days,) in drills twenty-one inches apart. Thinned once and hoed twice; tillage same as the ruta baga, (ashes and plaster omitted.) About two-thirds of the piece was planted with seed, which proved to be a mixed kind of all the beet family; the other one third part was the pure seed. The crop was fine, and if all had been of the same kind, the product I think would have been one-fourth larger. But as it was, the yield may be considered a fair one—over 800 bushels per acre, and the whole 1250 bushels. See the importance of having genuine seed, for I have no doubt the product was 200 bushels less than it would have been had all the seed been pure mangel wurtzel. I am much in favor of this root for feeding—probably it is equal to any, except the sugar beet.

The Sugar Beet—Of this I had only seed to plant six rods of ground. It seems to be well adapted to our soil and climate. The growth was much greater than any thing I have seen of the best kind. I have no doubt it will prove most valuable for feeding cattle, as well as for sugar. Product was over 80 bushels, and at the rate of about 2100 bushels per acre, or 63 tons. I rate all by weight, 60 lbs. to the bushel, for otherwise most of the roots could not be measured with any degree of accuracy. Here follows a statement of the produce of seven and a half and six-one hundred and sixtieth acres of what may be considered first rate corn land, and in a high state of cultivation.

cu mot rate com mund,	and in a man etat	o or cultiva
	Whole product.	Per acre
3 acres potatoes,	1300	4334
3 do. ruta baga, ?	3000	1000
carrots,	200	800
14 do. mangel wurtz	zel, 1250	800
6-160th sugar beets,	80	2100

74 acres 6 rods 5830 bushels.

Five thousand eight hundred and thirty bushels, at 60 lbs. per bushel, give 346,800 pounds, or 176 1-5 tons. The potatoes 13 tons, ruta baga 30 tons, carrots 24 tons, mangle wurtzel 24 tons, and the sugar beet at the rate of about 63 tons per acre. This crop last year would have brought more than \$2,300. What the price may be this year I know not. It is not my purpose to sell any, but to feed all my cattle; so I have my own market, and trust I shall turn them to good account.

I am now feeding thirty one head, at the rate of one bushel each per day, with hay nights and mornings, in their stalls, with corn and other coarse fodder through the day. I shall add to their allowance as shall seem proper and change from one to the other now and then. All the cattle eat greedily, and are doing well.

Barn Cellars, Storage of Roots, and Manner of Feeding.

I have two barn cellars under the barn floors, which together hold 3000 bushels. They have each a small door at the back end, and scuttles through the floor-are well pointed and proof against frost. By opening the door and scuttles I can dispel the foul air or gas at pleasure, for large quantities of roots stored in cellars must be ventilated, or they will heat and spoil. These cellars are filled by drawing the loaded cart on the floor, and dumping the load through

the scuttles-and the cellar is filled with very little labor.

The remainder of the crop were pulled and buried directly on the ground, such as potatoes, in heaps of about 33 bushels, leaving a small passage at the top, in order that the gass may pass off, without which they will not keep. In these two barns I stable 38 head of cattle, 31 of which are beef cattle, one pair of working oxen, and 5 milch cowsall convenient to feed from the cellars.—The roots are thrown upon the barn floor-cut with large English hay knives, which can be done by a smart man at the rate of a bushel per minute, and are passed to the manger with a scoop shovel. I have heard of cuttings machines for roots-never saw one, nor do I wish to. A good pair of hands, knife, and willing mind, is all the cutting machine I want. Every farmer should have a barn cellar; the cost is but little, and the advantage great. No one can know their value until he has one.

With good cattle, well constructed, clean, well littered stables, plenty of roots, and good hay, with card and curry-comb applied every day. I have fine cattle and good beef. Those roots should be extensively cultivated. They are within the reach of every man who farms any land, even one acre and can be guaged to his wants. The poor man can with his one acre and one cow, can at least plant six rods, and till it when he will do nothing else. See my 80 bushels

of sugar beet from like quantity.

Let all raise according to his wants and means of feeding, depending on his own market, and omit raising a portion of other produce which costs him five times as much both in labor and land.—This fact I have made plain in the exhibit of the entire product of two acres of ruta baga, buried directly on the ground as I pulled them, in heaps of say 23 bushels, weight one ton, standing as thick as cocks of hay in common meadows of one hundred each. Twenty to one! To see is to be convinced.

The point to gain is to be able to take the greatest product with least labor from the land, and to return the whole or an equivalent back again.—Keep cattle, raise roots, &c., make manure, and one important point is gained; for with manure I raise roots, and with roots fed to cattle I can make manure, and can pay back to the land as much as I received from it. I intend in due time to communicate the result of the feeding process this winter, and offer you something on other subjects, provided this effort in your opinion is worth the use of ink and types. Do with it as you please, and I am content.

I am, sir, respectfully, your ob't. serv't.,

JOHN SANDFORD.

Marcellus, Dec. 26th, 1837.

A Descriptive account of the origin, culture, progress and productiveness of the celebrated Black Humburgh Grape Vine, Hampton Court, England. By EDWARD SAYERS, formerly an apprentice in the Gardens.

[FROM THE HORTICULTURAL REGISTR.]

Perhaps there are few individual plants in the vegetable kingdom more generally known from record, and that have been the grand-parent, as it were, to so useful and numerous a progeny, as the celebrated vine about to be described. For although it is pretty certain its first origin was from Hamburgh, from which it derives the name Black Hamburgh Grape; certain it is, that most of the grape vines so named now extant, can be traced in their first progeny to the old parent vine at Hampton Court.

From the account given to me by the head gardener, Wm. Padley, Esq., in the year 1824, while thinning the fruit, it appears that the vine if now alive, is over 70 years of age. For at the time Mr. P. informed me it was sixty years of age and had been under his inspection with the same mode of culture upwards of 40 years; and the fact was father corroborated by an old man, Henry Taylor, 80 years of age, who was educated and worked in the gardens all his life time; he also affirmed the fact, of planting the vine in the place where it then stood, with his father.

Mr Padley observed, it has always been a remarkable healthy vine, and a very great favorite with George the Third, who, during his latter years, made it a practice always to see the vine in full fruit and vigor before any grapes were cut from it, yearly. But, George the Fourth seems to have been more fond of the juice of the grapes* then the beauty of the vine, for he seldom or ever visited it or the gardens, although from them his dessert was principally furnished, and he was certainly one of the greatest critics and connoisseurs of fruit of his day.

The first origin of the vine, says Mr Padley, was from Hamburgh about 60 years ago; four cuttings were sent under the name of Black Hamburgh to his majesty George the Third, but two only were made to vegetate, one of which was sent to Cumberland Lodge, and the other retained and planted in the place where it now grows. He continues, "The house was then a small pinestove used for succession pines, but in consequence of the vine making such rapid growth and

^{*}There is a want of good taste, as well as feeling in this remark. Ed. Farmer and Gardener.

the fruit being of a superior quality, it was entirily appropriated to its growth, which soon covered the whole of the roof, and it was therefore deemed requisite to enlarge it, to allow the plant to grow to its full extent; which, however, was not found sufficiently large and it was again enlarged to the present size.* He further remarked that the extraordinary growth and size of the vine, has been the cause of many erroneous ideas among gardeners relative to the probable cause of its large growth, as there never had been any border or preparation made purposely for it: many suggested that its fibrous roots had perhaps found their way to the margin of the Thames (which was probably about 115 feet from the base of the main stem;) this was however controverted by the fact that one of the roots of a considerable size was found traversing some distance up a dead drain, that was opened for the purpose of being cleaned: but from the probability that the vine received much of its sustenance from that source, it was allowed to remain untouched. The vine being placed in that part of the garden where much of this kind of nutriment could be obtained, it is very probable that its chief support was obtained this way.

The method of pruning then, and, as it appeared, always before, was that which is strictly called the spurring system; and the manner of training or framing the vine, was by leading three main shoots from the north corner of the front of the house (where the vine is planted) along the front to the south end, where they were turned and brought around to the back part of it, and returned about half way back; therefore the extreme point of the main shoots was over one hundred and twenty feet from the roots. From the main shoots laterals were trained across the house, and made to meet in such a manner

that the roof was entirely covered.

The method followed in the culture of the vine was to winter prune it in the month of February; and to keep it as late as possible before it vegetated or broke, when it had the usual treatment given to vines in such situations; until the flowering commenced, when a little fire was used to set the blossom; after this period no fire was used during the growth of the fruit, but, in the fall, when the grapes were ripe, a little fire was used to keep out the damp. The fruit was allowed to hang on the vine until the latter end of January, when it was cut,

and the same proceess was followed for many years.

The management of the vine was under three different persons, during my time in the gardens; Mr. Groves, the foreman of the melon ground, had winter pruned it twenty years; Mr. William Sorford, who superintended the private gardens, had the management of it, as regards giving air to the house, twenty years or more. The person who had the charge of the second houses in the melon ground, summer dressed it, thinned the grapes, and attended to heating the house, The general produce of the vine was supposed to be about sixteen hundred pounds weight of grapes a year, as the bunches were generally thinned to about that number, which were estimated at a pound weight each. In the year 1818, in order to try the probable weight of grapes which the vine would bear, 2,200 bunches were left on, which were calculated, perhaps not unjustly, to be one ton, or twenty hundred weight of grapes.

The Black Hamburgh Grape may be said to be excelled by none as a fruit of the first order in flavor, and its excellent appearance as a

^{*75} feet long, 17 wide, with an elevation of about 45°

dessert renders it equally applicable as a handsome fruit. To this may be added, it is, when well managed, an almost certain bearer; and to further assert these facts, it may be said that half the grapes cultivated under glass in Great Britain and America, are the Black

Hamburgh.

It is a singular fact, and rather to be regretted, that such authors as Loudon and his followers should designate this grape as the "Red Hamburgh," when it is, when well ripened, a jet black, and is as properly named as it possibly can be under the name of Black Hamburgh. But there is a singularity in this vine, which is not perhaps seen in any other kind, which is, that the whole produce of fruit on a vine, in a damp season of its ripening, is red; and on the contrary, if a fine sunny season, it ripens a jet black. And hence a common saying among the gardeners at Hampton Court, of a damp humid season, that "the old vine would produce red Hamburgh that year." The fact is, that this fruit, like many other kinds, rarely ripens well without the influence of sun and air; and many instances of the above mentioned may be quoted in this country, in different parts, of the true black Hamburgh vine ripening its fruit of a red color.

From the manner of treatment of this vine and many large ones, as that of Cumberland Lodge, managed by spurring, we may draw an inference that it is the most correct system, as, certain it is, that the heaviest crops of grapes from the spaces covered have been obtained under that method; and although many fine crops of this grape have been grown from the caning system, it is very doubtful, if a fair trial was given to two separate houses of the same dimensions for a number of years, if any system, either known or that could be projected, would answer so good a purpose as that of spurring, and allowing a vine to extend its branches so far as its nature requires. without exhausting its strength and constitution into a feeble habit, by overbearing it, when in a young state; (a system often adopted, and the cause of many fine houses of grapes being crippled in their infant state.) The coiling, caning, and Thomeroy systems have their respective merits, where produce and local circumstances predominate; but where space and time are in unison with a well matured soil for vines to root into, and other circumstances congeniel to the full development of the vine, I think the spurring system will be found the most profitable where houses are to be established for a number of

It may be laid down as a general law in the vegetable kingdom, that every plant or tree, to come to its proper size and yield its best and greatest produce, should be allowed to extend to its proper growth without being curtailed by any artificial means; and it will be found in the grape as in all other kinds of fruit, that whenever the free born limbs of nature are cramped or curtailed either to hasten or confine fructification into a contracted space, that the natural habit and vigor of such plants are in a measure retarded and suspended from that habitual character they would otherwise attain. It is also a fact well known, that the vegetable kingdom like the animal, in renewing its progeny from one family to another, assumes a different force of natural habit, as regards a more or less vigorous stature, health and general feature; hence the oak spreads its acorns around at the same time, season, soil and location; but the young plant arising therefrom, in course of years, with the same favorable situation, assumes a different

size and healthy appearance. And the same thing happens in all kinds and families of trees and vegetables.

Siberian Spring Wheat. [FROM THE CULTIVATOR.]

Utica, November 10, 1837.

Mr. Buel,—The lively interest that you have heretofore manifested in relation to the wheat crop, which holds such an important rank in agriculture, induces me to furnish you with some additional remarks, which I have gathered from another year's experience with the Siber-

ian spring wheat.

The first week in May I sowed six bushels of clean seed upon four acres of ground, which had lain to pasture four or five years, and planted with corn upon the furrow the preceding spring. gave a poor return, on account of the unpropitous season-the character of the season past, and the condition of the ground, were both favorable—the growth of the crop corresponded.—I saw it several times during the summer, and was (perhaps too much) gratified with the prospect of the final result. I was at the farm about the middle of July, when the process of vegetation was in its pride, and the kernel in that stage which farmers denominate the milk; a cloud came over the field with heavy thunder, much rain and more wind, which prostrated the whole crop, and that in all directions. From this disaster (occurring when in fullest leaf, and perhaps heaviest head) it never recovered but partially. We however harvested some of it with the cradle, but much more with sickles, and withal a sad and wasteful gathering necessarily resulted, and from its long prostrate condition, much of it over the whole field was shrunk more or less, according to the degree of prostration. From waste and shrinkage I apprehend we could not have suffered less than ten per cent. loss; besides it was all theshed during the rainy season of the last week in October, and the first week in November, by which we suffered some further loss; and yet amid all these drawbacks, we obtained between thirty-six and thirty-seven bushels to the acre.-The seed, when sown, was remarkably clean, berry full and perfectly dry, and weighed sixty eight pounds to the bushel. So much for the productiveness.

By way of experiment as to time of sowing, and the different stengths of soil, I reserved a small quantity of seed, and sowed one part of it the middle of May, on the side of my pea field, on land originally good, but much exhausted by at least ten years' tillage, without a holiday. This was a fair growth, bright, straw, and fair berry, and was,

I should judge equal to twenty-four bushels to the acre.

The remainder of the seed I sowed adjoining my white bean crop, on land not long in tillage, but naturally thin and unproductive. The straw grew well, and I began to think the Siberian wheat would grow on any soil, and might be sowed at any time, but at the harvest I was corrected: the straw, although not rusty, yet totally destitute of lustre, and the heads were poorly filled, and kernels badly shrunk.

The foregoing comparisons are Siberian with Siberian. I will now add a few observations, comparing Siberian with Italian and other

kinds of wheat.

The proprietor of the farm adjoining me on the south, took much pains to obtain, from a neighboring county, the Italian spring wheat

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At a distance of say fifty rods, south of my field, he sowed about three acres, at or nearly the same time that I sowed my first piece, and like mine, after corn, and in fine condition. His was a far less growth, and some time before harvest it was (as farmers say) struck with a rust, which so far shrunk the kernel that he did not harvest all his field.

The proprietor of the next adjoining farm to the one last mentioned, still south, obtained from me seed for one acre, (which was all could spare;) he also procured from the last mentioned farmer Italian seed for two acres more. He sowed the two kinds the same day, side and side, in good season, and fine order, and, like his neighbors and mine, after corn. The growth of the Siberian was perceptibly the most luxuriant; the straw bright and lustrous, the berry full, whilst the Italian was very rusty, with some smut, and the kernels badly shrunk. The proprieor judges that the Siberian will give him at least double the number of bushels per acre, and of double value per bushel.

The proprietor of the farm adjoining me on the east, sowed of the same Italian seed, about six acres, like all the preceeding pieces, after corn, in fine season and good order, land somewhat exhausted by tillage; it was on the road side. I saw it several times during the summer, the growth midling, but as the harvest approached it lacked lustre, and the berry was not full. I should judge 18 bushels per acre is all that can be expected from the field.

I furnished a Quaker friend in my vicinity with a bushel of seed. He then informed that he had produced a bushel of very highly recommended Italian seed from an adjoining town, together with another bushel from a still different source, the name of which he could not recollect, in order to test their comparative merits. Last week he called on me to let me know (as far as he could before threshing) the results. He said he sowed the three kinds the same day, on the same soil, with the same tillage. The growth of straw not materially different the forepart of the summer, although evidently in favor of the Siberian as the harvest approached. The Siberian came in with a bright and lustrous straw, with full heads and plump kernel, but a few days later than the other kinds. The Italian almost ruined with smut. The other kind, straw very rusty, kernel badly shrunk, with some smut. He says he thinks he shall thresh nearly or quite forty bushels from the one bushel of Siberian seed.

One comparison more, and "although last perhaps not least." In the same field with my Siberian. I summer fallowed seven acres, and sowed the previous fall with winter wheat. It suffered severely by the winter, but after a long time there began to show some surviving plants, which spread and grew luxuriantly, and finally gave a return, as we judge, (not having threshed only as we have wanted for use.) twenty bushels per acre. This part of the field was protected from the storm, which prostrated the other, by a wood on the westerly side. About ten days before harvest it was overtaken by a rust, remarkably dark, but came too late to affect the berry. It was surprising to see, side and side, for they were not even separated by a fence, the straw of the one kind as white as silver, and the other as brown as that of buckwheat. Another fact which claimed my attention, was that of a strange bug, of the size and shape of a bed-bug, having wings encased, but showed no disposition to use. They were astonishingly numerous, covering literally the straw near the heads of wheat, and thick upon the heads themselves, but not a bug on the

Siberian to be seen. Whether these are the harbingers of the grain worm or not I do not know, but whatever be his errand he has no message for the Siberian.

THOMAS GOODSELL.

Charcoal for Hogs.

[FROM THE GENESEE FARMER.]

Mr. Tucker—Every means of saving food in fattening hogs, seeing that fresh pork is so cheap in comparison with the price of the fattening material, should be known by the farmer. Those are on the right side of the hedge who sold their hogs on foot for from 3½ to 4½ cents per lb. which most or all could have got. Unless the owner has damaged grain, which he does not know how else to dispose of—soft corn for instance, or shrunk rusted wheat, it is ruinous work to fat and sell pork for 5 or 6 cents, which is all they now offer. The hogs will eat their heads off in a twinkling, at least as far as my experience goes. I would strongly advise all my brother farmers who can, to salt their pork themselves. Use the coarse bay salt, and pack down before it

freezes, and there is no fear of its spoiling

I took up my pen to recommend to my brother farmers the more general use of the charcoal in their fattening hogs. I know it has often been recommended in your valuable paper, and I know too that it is seldom attended to. We all know that charcoal is mostly carbon. Now hold a piece of glass over a candle and see what a quantity of the pure article you get from fat. Lamp black is very pure carbon. With regard to the hogs eating it, I give mine, 25 in number, about half a bushel a day, and they leave their corn for it, monching it in with the utmost zest. May it not be a remedy for those intestinal worms which are found so generally about the kidneys of hogs? I recollect reading of a hog that was a great favorite with the crew of one of our vessels, and suffered to run about the deck. One day he was missing, and as every one supposed that he had fallen overboard no great search was made. About two weeks afterwards the cook had to go down to the coal hole for a supply of coals where he found his hogship both fat and flourishing, with nothing within his reach but the coals.

The first opportunity I will describe an exceedingly pretty and convenient apparatus for steaming potatoes and other roots, and the most

approved plan of a hog pen.

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PART III.

MISCELLANEOUS INTELLIGENCE.

Improvement in pumps for raising water .- Improvements, so called, in pumps, we have frequently had occasion to remark, if real, are usually very small, and to this, the case before us forms no exception, whether novelty or utility be considered. The things described are, first, the mode of attaching a leaden tube to the lower end of a wooden pump, to lead down into the water; we are appre-hensive that, taking all things into account, wood will be most generally preferred to lead for this purpose. Secondly, a mode of opening the lower valve, so as to let out the water from below it, to prevent its freezing. This is to be effected by raising the pump handle to the greatest possible height, which depresses the piston and brings it into contact with a projecting tail on the lower valve, which it tilts, and opens. Our mechanical philosophy will not enable us to perceive how this is to effect the discharge of the water, as there is not any contrivance for simultaneously opening the upper valve, a thing which we should deem necessary to taneously opening the upper valve, a thing which we should deem necessary to the discharge of the water below, as well as above it. There has been a patent obtained for a pump in which both valves were to be opened, in a manner very similar to, though not identical with, the foregoing. This plan cannot be carried into operation in the way proposed without placing the upper and lower boxes close together, an arrangement not always to be preferred.

The claim made is to "the connecting of lead and other pipes with wooden pump barrels so as to form an air-tight junction, by means of locating the lower box in a socket connected with a pipe as aforesaid within the pump barrel, and other means as aforesaid; and the letting off the water to prevent freezing, by means of the lever valve in the lower box, opened by the projection is the bottom

means of the lever valve in the lower box, opened by the projection is the bottom of the upper box, all as aforesaid."—Journal of Franklin Institute.

Machine for mortising Posts, and Sharpening rails for Fences .chine bears a resemblance in several particulars to some others which have been constructed for a like purpose; its main merit consisting in the manner in which the parts are combined together so as to effect the mortising and sharpening in one machine. The post to be mortised is placed upon a carriage, and the boring is effected by, two, three, or more angers, operating simultaneously; when, by shifting the carriage, the bored part is brought under chisels in a frame vibrating virtically, which chisels remove the superfluous stuff. By means of curved chisels,

or cutters, placed in the same frame the rails are to be pointed so as to fit the mortises. The claim is confined to the particular mode of construction, as set forth in the specification .- Ib.

Substitute for Soap.-M. Fenton, the inventor of this process, proceeds in the same manner as in soap making until the mass is ready for the moulds. He then dissolves common soda of commerce in water, and pours the solution on quick lime, taking equal quantities of soda and lime, and the mixture is boiled in a kettle. A quantity of alum equal to one half of the soda is well dissolved in water, and as soon as the contents of the kettle begin to boil, one part of the solution of alum and two parts of the mixture of the kettle are poured to-gether into a separate vessel. This lye, at a proper temperature, will combine easily with soap.—Receuil Industriel.

Cure for Rheumatism .- Dissolve half an ounce of saltpetre in a pint of brandy, and take a table spoonful every day. It is said, by those who have tried the experiment, to be a most excellent antidote for that double twisting, painful com-plaint.—Boston Post.

Cordage of the fibre of Aloes .- According to M. Chevremont, Engineer of Mines, ropes made of aloes have four times the resistance of those of hemp of the same diameter and made by the same process. The fibres of the aloe contain a resinous substance which protects the ropes from the action of moisture even at sea, and renders the tarring of them unnecessary. They are lighter than hempen ropes, and lose nothing of their strength by being wet. When plunged into water even, they are shortened only two per cent., so that they are much less stiff than hempen ropes.—Bulletin d'Encour. Mai.

Durability of Timber in a wet state .- Mr. Editor -- As many persons appear to express their doubts of the durability of timber as a building material, when placed under water, I take the liberty of sending you some examples which are found on record, showing that timber, if excluded from the air, will endure to an

almost indefinite period.

"Of the durability of timber in a wet state, the piles of the bridge built by the Emperor Tragan across the Danube, is one example. One of these piles was taken up, and found to be petrified to the depth of three quarters of an inch; but the rest of the wood was little different from its ordinary state, though it had been driven more than sixteen centuries."—Buffon.

"The piles under the London Bridge have been driven about 600 years, and from Mr. Dana's observations, in 1746, it does not appear that they were materially decayed. (Hutton's tracts, vol. 1, p. 119.) In 1819 they were sufficiently sound to support the massy superstructure. They are chiefly of elm."-[T. Tred-

"In digging away the foundation of Old Savoy Palace, London, which was built 650 years ago, the whole of the piles, consisting of oak, elm, beech, and chesnut, were found in a state of perfect soundness; as also was the planking which covered the pile heads."—Sup. to Ency. Brit.—[Franklin Farmer.

The Mount Vernon Farmer. - The fame of Gen. Washington as a soldier and statesman, is universally known and highly admired by all who appreciate talents, worth, and love of country; but his character as a farmer was less known in his day, and his memory in this respect is not venerated according to its desert. Possessing ample means and the most ardent love of rural life, he was one of the first experimental and practical farmers in Virginia. His estate at Mount Vernon consisted of 10,000 acres of land in one body, equal to about 15 square miles. It was divided into farms of convenient size, at the distance of 2, 3, 4, and 5 miles, from his mansion house. These farms he visited every day in pleasant weather, and was constantly eugaged in making experiments for the improvement of agricul-

Some idea of the extent of his farming operations may be formed from the fol-Some idea of the extent of his farming operations may be formed from the following facts: In 1787 he had 500 acres in grass—sowed 600 bushels of oats—700 acres with wheat, and prepared as much more for corn, barley, potatoes, beans, peas, &c., and 150 with turnips. His stock consisted of 140 horses, 112 cows, 235 working oxen, heifers and steers, and 500 sheep. He constantly employed 250 hands, and kept 24 ploughs going during the whole year, when the earth and the state of the weather would permit. In 1786, he slaughtered 150 hogs, weighing 18,560 lbs. for the use of his family, besides provisions for his negroes.—Silk Culturist.

Superior Johnny-Cake .- The following recipe will make a Johnny-cake fit for an alderman, a mayor, an editor, or any other dignitary of the land.

" Take one quart of milk, three eggs, one tea-spoonful salæratus, one tea cup of wheat flour, and Indian meal sufficient to make a batter of the consistency of pancakes. Bake quick, in pans previously buttered, and eat warm with butter or milk. The addition of wheat flour will be found to be a great improvement in the art of making these cakes."

Potato Flour for Children .- Another most important use to which potato flour can be applied, is to give it, boiled in milk, in the proportion of two spoonfuls of flour to one pint of milk, to young children, brought up by hand, and not at the breast, or after they are weaned from the breast.

Three Great Physicians .- Desmoulin, a celebrated French physician, when on his death-bed, having called around him the most distinguished physicians of Paris, "Gentlemen, said he, "I leave behind me three great physicians:" on their urging him to mention them, expecting probably to hear their own names, he briefly added, " Water, Exercise, and Diet."

Communicated for the Southern Agriculturist.

Monthly Calendar of Horticulture, &c.

FOR APRIL.

Carrots.—If the main crop of carrots were not sown last month, they should be some time in this. Let it be recollected that European seeds alone ought to be new used, for those from American seeds are apt to run in the fall, whilst those from Furopean seeds, will not one in twenty run, but will remain good until the next spring—they will not be as sightly during the winter, as those sown in September, but be fully as good. For directions for sowing, &c., see last month.

Beets, Salsafy and Parsnips.—This is a good month for sowing these vegetables. We would prefer beet seeds for this sowing, of those raised in this State, as the plants from these appear to be more capable of withstanding the heat, than those from Northern or European seeds. We do not know whether the same remark can be applied to the salsafy and parsnip, never having made any experiments with them. These (salsify and parsnip) will be in good eating all the fall and winter. A considerable quantity of each, therefore, should be sown by those who are fond of them.

Cauliflowers and Brocoli.—Towards the last of this month, sow cauliflower and brocoli seeds, if you succeed in passing them through the summer, you will be more likely to have fine flowers from this sowing than any other. They are very uncertain crops, and we very seldom see many in our markets, and not often in our private gardens.

Cabbages.—We would advise that only the green glazed cabbage plants be set out in this month, for they are the only variety which can resist the depredations of the worms. Towards the last of the month, seeds of the sugar loaf, battersea, and drumhead cabbages, may be sown.

Tomatoes.—Some more seeds of this vegetable should be sown this month, and be planted out as soon as fit. They will come in us a succession to those set out last month, and continue bearing until late in the fall. We have seen them often in full bearing when killed by a frost.

Okra.—A successional crop of this vegetable ought to be sown, toward the last of this month. For this purpose, a low, but well drained spot should be selected. The ground should be thrown into high and large beds, 5 feet apart, and the seeds planted in holes every 2 or 3 feet apart—the plants to be thinned down to 1 or 2 in each hole. They will furnish a supply until late in the fall.

Peppers.—If these were not set out last month, they ought to be, as soon as possible.

Snap Beans.—Continue to plant snap beans. For directions, see last month.

Radishes.—These should be sown every three weeks, when it is wished to have a succession.

Lettuces.—When this vegetable is desired, a few seeds may be sown, but it should be on a low cool spot, well drained, and the plants permitted to remain

where sown: They are less likely to run to seed without heading, treated in this manner, than when transplanted.

Celery.—Sow celery seeds in a low damp spot, but be careful that it be well drained, and that no water lodges on it. The ground should be made very fine, and the seeds merely brushed in. The young plants should be pricked out in to beds prepared for them, as soon as they are large enough to handle—set them about 3 or 4 inches apart each way. The object is to give them room to grow, and permit them to make good roots, so that when transplanted to where they are to remain, they may readily take.

Leek and Onion Seeds may be now sown, and the plants transplanted out as soon as they are large enough.

Melons and Cucumbers.—It is rare that these will repay the trouble of planting, when they are planted as late as this, unless under very favorable auspices; yet if none have been planted, we would venture a few. If successful, you will have them about the time the first crops are declining.

Squashes, Cushaws and Pumpkins.—The remarks we made relative to melons and cucumbers, apply equally well to these.

Guinea Squashes.—Transplant these, if not done already, into beds prepared for them. The ground should be made very wet and fine, and the plants should be set out in rows 4 feet apart, and 2 feet in the row.

Corn.—A successional crop of corn may be planted in this month. The flint corn of Carolina is to be preferred.